NAVY MEDICINE

May-June 2005

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Navy Medicine, Vol. 96, No. 3 (ISSN 0895-8211 USPS 316-070) is published bimonthly by the Department of the Navy, Bureau of Medicine and Surgery (M00H), Washington, DC 20372-5300. Periodical postage paid at Washington, DC. POSTMASTER: Send address changes to *Navy Medicine*, Bureau of Medicine and Surgery, ATTN: M00H, 2300 E Street NW, Washington, DC 20372-5300. Opinions expressed are those of the authors and do not necessarily represent the official position of the Department of the Navy, the Bureau of Medicine and Surgery, or any other governmental department or agency. Trade names are used for identification only and do not represent an endorsement by the Department of the Navy or the Bureau of Medicine and Surgery. Although *Navy Medicine* may cite or extract from directives, authority for action should be obtained from the cited reference. The Secretary of the Navy has determined that this publication is necessary in the transaction of business required by law of the Department of the Navy. *Navy Medicine* is published from appropriated funds by authority of the Bureau of Medicine and Surgery in accordance with Navy Publications and Printing Regulations P-35. Funds for printing this publication have been approved by the Navy Publications and Printing Policy Committee. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

NAVY MEDICINE

Volume 96, No. 3
May-June 2005

Features

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We Want Your Opinion

Letters to the Editor are welcome. Please let us know what you like about *Navy Medicine* magazine and how we can better enhance your Navy medicine experience. For contributor guidelines please contact: Janice Marie Hores, Assistant Editor, Bureau of Medicine and Surgery (M00H), 2300 E Street, NW, Washington, DC 20372-5300 or jmhores@us.med.navy.mil.

Cover: HM3 Andrew R. Slaughter received the Bronze Star with "V" for valor and a Purple Heart at a ceremony at Camp Pendleton, CA. Story on page 14. U.S. Navy photo.

Heroes on the Battlefield

HM1 (FMF) Richard Barnett

The war in Iraq had just begun, and 29-year-old HM2 Brian Alaniz, assigned to the 3rd Battalion, 7th Marines, was doing what the Navy had trained him to do—taking care of "his Marines." So when one of them stepped on a land mine 21 March 2003, Alaniz rushed to get medical equipment.

His efforts, however, had brought him into harm's way. He felt a blast beneath him and knew immediately what had happened. Alaniz had stepped on a land mine which shattered the bones in his right leg, making it impossible to repair. He had only been in Iraq for 4 hours, and his right leg was gone forever. Alaniz is one of many heroes whose stories were born of bravery in battle and dedication to duty, despite the personal costs.

Unfortunately, not all of Navy medicine's heroes have survived their injuries. During the global war on terrorism, eight Navy corpsmen have made the ultimate sacrifice, giving their lives in service to our nation: HMC Matthew J. Bourgeois; HM2 Michael Vann Johnson; HM3 David A. Cedergren; HM3 John D. House; HM3 Fernando A. Mendez Aceves; HM3 Julian Woods; HN Pablito P. Briones; and HN Joshua D. McIntosh.

Navy corpsmen consistently commit acts of selfless bravery, and more than a dozen of these young men and women have been awarded the Bronze Star Medal. Many more corpsmen have Purple Hearts. One has received the Silver Star and one Sailor has earned the Navy Cross, our nation's second highest award for valor, and an award which no other corpsman has earned in the past 30 years. In fact, throughout our history, more Navy corpsmen have been awarded Medals of Honor, than any other specialty in the Navy.

The following are brief examples of extraordinary heroism by Navy corpsmen in the global war on terrorism.

HA Luis E. Fonseca Jr., a 23-year-old corpsman, was awarded the Navy Cross for saving the lives of several wounded Marines 23 March 2003. Despite an intense rocket-propelled grenade attack and under machine gun fire, Fonseca organized litter teams and directed the movement of four of the Marines, while personally carrying one wounded Marine over open ground to safety.

HM3 Thomas Smith received the Bronze Star Medal with Combat Distinguishing Device May 2004 for putting his life on the line several times to save the lives of eight Marines while under enemy fire 4-5 April 2003.

HM3 (FMF) Chad Peabody was awarded the Bronze Star Medal with Combat Distinguished Device in a ceremony late August for heroism during a convoy attack in Iraq 9 April 2004.

HM3 Andrew Slaughter was awarded the Bronze Star Medal with a "V" for valor and a Purple Heart Medal for pulling a mortally wounded Marine from a burning vehicle, reaching other wounded Marines under enemy fire, and performing a life-saving tracheotomy on another wounded Marine.

I would also like to tell you about HM1 (FMF) Richard Barnett. His photograph also summarizes much of what our corpsmen do. Petty Officer Barnett was—a moment before this picture was taken—standing with the other Marines in the background, indistinguishable from them and part of their fighting unit. He went where they went, trained where they trained, and fought alongside them.

U.S. Navy Photo

SSGT Eric Alva, USMC, and HM2 Brian Alaniz, USN, both having lost their right legs, received their Purple Hearts from President Bush while recuperating at National Naval Medical Center, Bethesda, MD.

In an instance, Petty Officer Barnett could have been treating the wounds of one of his Marines, yet we see him as a humanitarian caring for a young child. This speaks to the myriad of responsibilities our corpsmen have in our medical system. This is but one example of our heroes on the battlefield going from being a Marine to being a humanitarian or to being a healthcare deliverer—that really epitomizes what we do.

Navy medicine's list of heroes continues to grow with the names of men and women who serve alongside the Marine Corps in the field, and with Sailors throughout the fleet. These brave Sailors have exemplified the well-known saying that "a Marine never takes a hill out of the sight of a Navy corpsman." ❑

Vice Admiral Don Arthur, MC, USN
Surgeon General of the Navy

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Department Rounds

Navy Strategic Communications Plan

LCDR Youssef Aboul-Enein, MSC, USN

Leaders of Navy medicine from the commanding officers to leading petty officers need to be aware of the release in January of an important document by our Chief of Naval Operations (CNO) ADM Vern Clark. It is vital to understand how Navy medicine fits into the overall objectives of the Navy. These objectives and strategies change from year-to-year, reflecting the ever changing nature of the conflicts we now fight.

Playbook 2005 is the Navy Strategic Communication Plan and serves as a message alignment tool to help for every flag officer, CO, and public affairs professional to communicate the Navy's priorities to Sailors and their families as well as the American public and the international community. But do not wait to have this document land on your desk. Contact the Navy Office of Information, your local public affairs officer (PAO), or get it online (http://www.chinfo.navy.mil/navpalib/cno/clark-guidance2005.pdf) and spend

some time orienting yourself to this document. It is guaranteed to make you a better naval leader because you will understand the Navy's priorities. It is not a large document (less than 25 actual pages of text.) As you read, look at your assignments, your command, and the way you deliver healthcare. Connect the overall strategic objectives of the Navy to what you do and say to patients and the public. The three enduring themes for 2005 are:

•Mission First, People Always;
•Transforming our Naval Forces;
•Excellence in Warfighting.

As we have seen since 9-11, and what our leadership is emphasizing, Navy medicine has a distinct role in all three.

In mission first, people always, think of the spectrum that Navy medicine covers from the corpsman in the field and under fire treating Marines and Sailors to the military treatment facilities that keep the families of forces deployed taken care of. Even as this review is being written, USNS *Mercy* (T-AH 19) is in Asia bringing relief to Tsunami victims, and naval warships have distilled millions of gallons of seawater to supply fresh drinking water. Mission first, people always means developing what the CNO calls a human capital strategy to create a workforce that provides the right skills at the right time to accomplish the right work. Employing new technologies, and the realignment of active, reserve, and civilians to improve our warfighting capabilities is part of this strategy. As you look at our naval hospitals you should be able to see much of this in action. This includes reserves backfilling in clinics, or even deploying in lieu of the active duty member, as well as integrating reserve units in the treatment of patients to offer weekend services. Also highlighted in the mission first, people always theme is recognizing the new challenges placed on today's Navy and Marine families, and ensuring that they receive the support they need. Nowhere is that more crucial than in stateside military hospitals and clinics from pediatric care to helping a spouse settle his/her medical bill through the TRICARE Service Centers. These are all part of the warfighting effort and enable our forces to engage the enemy worry-free. The document contains several key sentences that Navy medicine leaders need to highlight, such as:

We must sustain the high quality of Sailors and continue to treat them well. Note that healthcare is a huge part of the word "treat" in that sentence.

Provide Sailors and their families with the support needed for a healthy and stable personal life.

We recruit Sailors, but we retain families.

In the past this nation has taken basing rights and the right to overfly other nations for granted. This is no longer the case. The second theme is to transform our naval forces to overcome this obstacle with sea-basing.

Think of the way operational medicine will be delivered in the 21st century through sea-basing, an extended maritime interdiction operation (EMIO) that keeps forces in a strategic trouble spot for a year or more, and sharing timely information across the fleet and the joint force to provide a common operational picture. We can not afford incompatibility of communication among all the forces (Army, Air Force, Navy, Coast Guard and Marines). The Navy-Marine Corps Intranet highlighted in the document is a secure means of email that will replace cables and the old medical evacuation messages. Think of the new patient data that can be securely emailed with this system.

The third theme, Excellence in Warfighting takes the lessons of readiness learned in Operation Iraqi Freedom in which six aircraft carrier strike groups and 75,000 Marines were deployed to support the invasion and liberation of Iraq. The investment in readiness allowed for this deployment of power, and medical is a big part of readiness. Just as the Navy packages fleet operations into Carrier Strike Groups (CSGs), Expeditionary Strike Groups (ESGs), and Surface Action Groups (SAGs), Navy medicine also packages its medical capabilities to fit each fleet operation option and needs to constantly revise this package depending on the new missions that each encounters with every deployment. The lessons learned from Surgical Companies and the USNS *Mercy* (T-AH 19) deployed in the Asian Tsunami relief operation will offer a treasure trove of new ideas to enhance Navy medicine's capabilities and ways of executing the mission. Take time reading this seminal document and think about the ways Navy medicine fits in the overall strategy of our Navy. ❑

LCDR Aboul-Enein is a Plans Operations and Medical Intelligence Officer assigned as Director for North Africa and Egypt, as well as Special Advisor on Islamic Militancy at the Office of the Secretary of Defense, Washington, DC.

New Medical Department

CAPT Donald R. Gintzig, MSC, USNR, is Commanding Officer of Naval Reserve National Naval Medical Center, Bethesda, MD.

Dr. Gintzig earned his Bachelor's Degree and his Master's Degree in Business Administration from The George Washington University, Washington, DC. He also completed a Post Master's Fellowship in Health Care Administration with The George Washington University at South Miami Hospital.

CAPT Gintzig began his Naval career as a LTJG in Jacksonville, FL, in 1983. His assignments included NR MEDCRU 408, NR NH San Diego 110, which later became NR NH Corpus Christi 410, OIC, NR 4th MARDIV 1/23 Houston, TX, XO, NR NH Corpus Christi 510, 4th Med Battalion 4th FSSG Surgical Support Company Bravo, Fleet Hospital Fort Dix as OIC of Detachments J and A, and DFA, Fleet Hospital, Minneapolis.

CAPT Gintzig's personal Decorations include Navy and Marine Corps Commendation Medal (four Awards), Navy and Marine Corps Achievement Medal (three Awards), Fleet Marine Forces Ribbon, Meritorious Unit Commendation, Armed Forces Service Medal, National Defense Service Medal (with Star) and Armed Forces Reserve Medal (with Device).

He is a member of the American College of Health Care Executives, the Association of Military Surgeons of the United States, the Association of Medical Service Corps Officers of the Navy, and the Naval Reserve Association. ❑

CAPT Jeffries began his naval career in 1976 through the Armed Forces Health Professional's Scholarship Program. He earned a Bachelor of Arts degree from Coe College in Cedar Rapids, IA, and completed graduate studies at the University of Colorado in secondary education with a teaching certificate from the State of Colorado. He graduated from the College of Osteopathic Medicine and Surgery in Des Moines, IA, in 1979.

CAPT Jeffries completed an internship and Family Medicine residency at Naval Hospital Pensacola FL, and obtained board certification in 1982. His first staff assignment was to Naval Hospital Twenty-nine Palms, CA. His other assignments have included Naval Hospital Camp Pendleton, CA, Operation Desert Shield, where he was assigned to the 1st Marine Division as the Regimental Surgeon for the 11th Marines (Artillery Regiment), as Division Surgeon for the 1st Marine Division, Force Surgeon for MARFORCENT, and I MEF (Forward) in Operation Restore Hope, Somalia. In 1993 he was re-assigned to Naval Hospital Camp Pendleton, where he completed his tour as the Director for Medical Services. He then reported to Marine Forces Pacific, Camp Smith, HI, as the Force Surgeon. During this tour he assumed duties as the Deputy Commander for Clinical Services at Tripler Army Medical Center, until 2003 when he assumed command at Naval Hospital Camp Pendleton.

CAPT Richard R. Jeffries, MC, USN, is Commanding Officer of Naval Hospital Camp Pendleton, CA.

Flag Selections

Dr. Jeffries is certified by the American Board of Family Practice and the American Osteopathic Board of General Practice. He is a Fellow of the American Academy of Family Physicians. Dr. Jeffries also holds a Certificate of Added Qualification in geriatric medicine.

Dr. Jeffries personal decorations included the Legion of Merit (3), Meritorious Service Medal (2), Bronze Star, Combat Action Award, Order of Military Medical Merit, and Order of Saint Barbara. ❑

CAPT David J. Smith, MC, USN, is Assistant Deputy Chief, Health Care Operations, Bureau of Medicine and Surgery, Washington, DC.

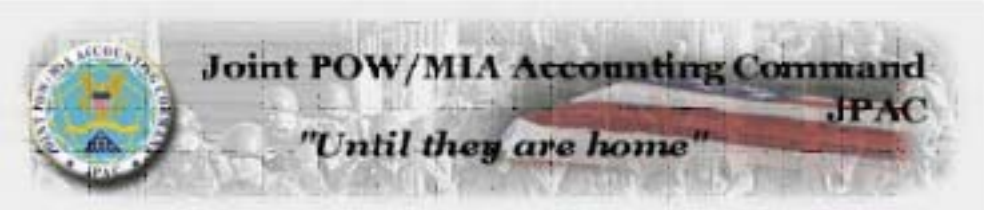
CAPT Smith received a Bachelor of Science in Biology from the University of Illinois, after which he entered the Naval Health Professions Scholarship Program and received his Doctor of Medicine from Northwestern University Medical School in 1981. LT Smith completed his rotating medicine internship at Naval Regional Medical Center, Oakland, CA, and transferred to Naval Undersea Medical Institute in Groton, CT, where he completed the Undersea Medical Officer training program.

Dr. Smith's assignments have included USS *Grayback* (SSG-574), Naval Diving and Salvage Training Center, Panama City Beach, FL; Naval Medical Research Institute, Bethesda, MD; Navy Medical Exchange Officer, Institute of Naval Medicine, Alverstoke, England; Safety and Health Department at the Armed Forces Radiobiology Research Institute, Bethesda, MD; Occupational Health consultant for the Defense Nuclear Agency, Arlington, VA; National Naval Medical Center, Bethesda, MD; executive officer Naval Hospital, Rota, Spain; as well as commanding officer, TRICARE Management Activity, Office of the Assistant Secretary of Defense (Health Affairs).

CAPT Smith is a Certified Physician Executive (CPE) and Fellow of the American College of Occupational and Environmental Medicine (FACOEM). He is Board Certified in Occupational Medicine with a certificate of added qualification in Undersea Medicine from the American Board of Preventive Medicine. He has received a Certificate in Medical Management from the American College of Physician Executives and Tulane University.

Dr. Smith's personal decorations include Defense Superior Service Medal, Legion of Merit (with one Gold Star), Defense Meritorious Service Medal, Meritorious Service Medal, Navy Commendation Medal (with one Gold Star), Navy Achievement Medal, National Defense Service Medal, and the Navy Humanitarian Service Medal. ❑

Deploying Navy Medicine Personnel For JPAC Missions



The Joint Prisoner of War (POW)/Missing in Action (MIA) Accounting Command (JPAC), located on the island of Oahu in Hawaii, was activated on 1 October 2003. The JPAC mission is to achieve the fullest possible accounting of all Americans missing as a result of our nation's conflicts. The command's highest priority is the return of any living Americans that remain prisoners of war.

JPAC was created from the merger of the 30-year-old U.S. Army Central Identification Laboratory (CIL), Hawaii, and the 11-year-old Joint Task Force-Full Accounting. This 425-person organization, commanded by a flag officer, is committed to bringing home our nation's service members and civilians who made the ultimate sacrifice.

JPAC is a jointly manned unit with handpicked Soldiers, Sailors, Airmen, and Marines with specialized skills, and Department of the Navy civilians who make up about 25 percent of the organization. The laboratory portion of JPAC, referred to as the CIL, is the largest forensic anthropology laboratory in the world.

The JPAC mission is daunting, with approximately 78,000 Americans missing from World War II (of those, an estimated 35,000 are deemed recoverable, with the others lost at sea or entombed in sunken vessels), 8,100 missing from the Korean War, 1,800 missing from the Vietnam War, 120 missing from the Cold War, and one serviceman missing from the Gulf War.

To accomplish its mission, JPAC is organized to support five main areas: analysis, negotiations, investigations, recovery, and identification.

Navy Medicine's Role

Although the Army leads coordination of these missions, each year the Bureau of Medicine and Surgery (BUMED) assigns personnel for approximately 15 recovery missions from within Claimancy 18 activities. Annually, the JPAC releases its Operational Order (OPORD) detailing the locations, dates, mission requirements, and what service will be tasked to fill the assignment.

In accordance with established deployment procedures (see Mar/Apr 2005 issue of *Navy Medicine*) BUMED Plans and Operations (M3F3) identifies mission requirements to the Specialty Leaders of the Surface Force Independent Duty Corpsman, Physician Assistant, Family Practice Practitioner, Emergency Physician communities, and the Healthcare Support Offices to notify them of these pending assignments. Qualified candidates are identified and an application package is completed that includes: up-to-date immunization history, a resume from the individual requesting assignment, a "secret" security clearance, valid passport, and a command en-

Right: A team from the JPAC along with several hired Vietnamese workers clean up a recovery site to prepare it to be photographed. The site is located in the Quang Nam Province in the Socialist Republic of Vietnam. Photo by SGT Douglas Stubblefield, USMC.
Below: Remains from North Korea return with honors and are escorted to JPAC's Central Identification Laboratory. Photo by Senior Airman Catherine Thompson, USAF.

dorsement from the commanding officer or officer in charge. It is important to reinforce that as with any operational manpower requirement that Navy medicine fills, the requirement must first be vetted through command channels and not the individual. Personnel interested will work through their chain of command and specialty leaders.

The candidate is assigned to JPAC for the duration of the mission and will receive a Level One Anti-Terrorism Force Protection (ATFP) brief and will be under the control of the JPAC ATFP plan for missions. Before embarking on the assignment, each candidate will attend an orientation at JPAC in Hawaii to receive training on mission requirements, medical aspects of the country that they will be in, the disease threats, and country orientation to legal and social responsibilities.

A typical recovery team is composed of 10 to 14 personnel, and assigned a team leader. The command group includes a team senior enlisted (typically an Army Sergeant First Class (SFC) trained in the field of mortuary affairs) and a forensic anthropologist (the only civilian team member) who oversees the scientific aspects of the recovery. Additional team members may include a linguist/interpreter, medical personnel, aerospace life-support technician, forensic photographer, explosive ordnance disposal technician, and several mortuary affairs specialists. Depending on the mission, the teams may be augmented with mountaineering specialists, communication technicians, and mechanics. Teams usually remain in the field for 30 to 45 days per mission. JPAC teams commonly deploy 5 to 6 months of the year to some of the most austere areas of the world to include Vietnam, Cambodia, Palau, Korea, and Laos but have also conducted missions in Europe.

Commitment

The U.S. Government, the Department of Defense, JPAC, and BUMED are committed to the fullest possible accounting of Americans still missing or unaccounted for in defense of our nation. JPAC and Navy medicine will continue to fulfill our nation's promise to the POW/MIA families and those Americans still waiting to come home. ❑

Series by the staff of the Plans and Operations Directorate (M3F3), Fleet Operations Support, Bureau of Medicine and Surgery, Washington, DC.

New Generation of Water Canteens

LCDR Youssef Aboul-Enein, MSC, USN

The Soldiers, Marines, Sailors, and Airmen have spoken and the old bulky canteens that came with a form fitting tin cup is out and the Camelback™ is in. A 2 February article in *Jane's Defense Weekly*, reports that, in response to troops and their families, many militaries have made the Camelback™ hydration systems standard issue (Robin Hughes, Next-generation canteen tackles hydration issues. *Jane's Defense Weekly*. 2005;42(5):32). As every military medical professional knows getting Sailors and Marines to constantly hydrate is a challenge, and dehydration represents a key threat to combat readiness according to the U.S. Army's Military Operational Medicine Research Program. The traditional canteen required a person to pause, shoulder their weapon, unstrap the canteen, and unscrew the top. In a heated combat zone this makes a soldier vulnerable. The Camelback™ is a bladder-like water container worn on the back with a straw or tube that extends into the mouth. The mechanics of water intake is important to military medical planners, as a person is less likely to drink when under fire because of the need to use two hands to drink. According to the *Jane's* article, what placed the Camelback™ system on the map was its widespread use in Operation Iraqi Freedom and Operation Enduring Freedom in Afghanistan, when it was used en masse.

Features that make Camelback™ a better combat hydration system is not only ease of transport and use, but also the sealed bladder that keeps water safe from bacterial hazards. The manufacturing company, based in Petaluma, CA, responded to troops writing them and have added a side zipper to make it easier to take the bladder in and out, and a Hydrolock that allows a user to shut off the flow of water from the bladder and avoid spillage. One system currently in use in Afghanistan is the Hydro-link In-Line Microfilter. The system allows troops to take water from a natural source or from a tap (in nations where it is advised not to drink tap water) and produce clean water 99.99 percent free of bacteria; the filters can treat 75 gallons of water.

One system being tested is a Camelback™ with the model name CBR 4.0, that provides troops with three liters of chemical/biological-free water in a CBR resistant bladder. Camelback ™ Corporation also is designing a more camouflaged Low Infrared Reflective (LIRR) backpack system that helps its wearers hide more effectively in different terrain. Navy corpsmen will be asking troops in the near future not if they topped off their canteen, but if they are wearing a full pack of water? ❑

LCDR Aboul-Enein is a Plans Operations and Medical Intelligence Officer assigned as Director for North Africa and Egypt, as well as Special Advisor on Islamic Militancy at the Office of the Secretary of Defense, Washington, DC.

Kits May Save Lives

About 1,000 sailors either deployed overseas or getting ready for deployment with Maritime Force Protection Command units are being issued special medical kits designed to save themselves or a shipmate from the effects of a traumatic injury.

Called a Point of Injury kit, each fanny-pack-sized kit contains an easy-to-use tourniquet, a specialized compression bandage, a product called QuikClot designed to stop bleeding, a needle to let air out of a person's chest, an airway device and anti-infection and pain medicines.

Each sailor is getting a half-day training on how to use the equipment.

When an injury occurs, a sailor could use the kit to save a life in the minutes before a hospital corpsman could arrive, said Cmdr. Michael Weiner, force medical officer.

Sailors and officers deployed with mobile security detachment, naval coastal warfare units, explosive ordnance disposal teams and mobile diving and salvage teams in Iraq, Kuwait, Bahrain, United Arab Emirates, Afghanistan and other places around the world are receiving the kits. ❑

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Pay and Benefits
Expanding care for combat vets

WHAT'S UP: Combat veterans would be eligible for veterans' health care for up to five years after discharge from active duty – three more than under current law – under a bill proposed by Sen. Daniel Akaka of Hawaii, a World War II veteran and the ranking Democrat on the Senate Veteran's Affairs Committee. His proposal, S 481, would apply to combat service in the 1991 Persian Gulf War and in current or future combat.

WHAT'S NEXT: Congress generally has been supportive of extending health care to combat veterans after a conflict, based on the possibility that injuries could be combat-related even when there isn't clear proof. But Akaka's proposal of providing five years of coverage may test the limits of support, especially because VA hospitals are short of money to care for those already eligible for treatment. ❑

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MERCY BRINGS RELIEF

The hospital ship Mercy arrived off the coast of Nias Island, Indonesia, on April 4, Agence France-Presse reported.

Mercy was expected to help hundreds of people still needing help in the wake of a strong earthquake that killed about 1,300 people on March 28.

Almost 100 medical personnel from San Diego Naval Medical Center left California on a Charter flight April 7 to lend a hand.

They will join about 275 Navy medical personnel already on the ship said Navy Lt. Cmdr. Jason Keltner, administration director at the Naval Healthcare Support Office in San Diego. About two dozen members of the U.S. Public Health Service and the nongovernmental organization Project Hope joined the flight and will work on Mercy. ❑

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Officials seek better way to get medical threat data to commander

Deborah Funk

Defense health officials are working on a better way to provide combat commanders with medical threat information, from knowledge about environmental toxins to accident and battle injuries.

The plan discussed March 22 at a combat medicine conference in Virginia, is to not just provide information but to provide it in a format allowing commanders to quickly assess the risk their troops face and prevent illness and injury.

The new system, called Medical Situational Awareness in the Theater, will be tested in U.S. Pacific Command in December and developed into fiscal year 2009.

The theater threat program will take information already available from existing intelligence and medical sources and condense it to something commanders can use quickly, said Anthony DeNicola, director of deployment systems and records with the Deployment Health Support Directorate.

Commanders can get information from various medical, intelligence, and service-specific sources, covering unit locations, physical and psychological trauma, environmental health, illnesses and accidents. But the multiple sources are kept primarily in separate systems and don't connect. This can create data overload, making it difficult to sort and understand the health risks quickly, DeNicola said.

Because the current systems are designed as stovepipes, collecting data from them can be labor intensive, he said.

MSAT will go "behind the scenes" and display data for commanders when they query the system for answers, DeNicola told the battlefield medicine conference in Tysons Corner, Va., organized by the Institute for Defense and Government Advancement.

Michigan Air National Guard Maj. (Dr.) James Galloway, an emergency medicine physician who attended the conference, said later that the Defense Department needs to provide medical information in a standardized format so it can be used by all of the services and is accessible to all military medical people.

As a physician, it doesn't matter to Galloway what color uniform the patient wears. He needs to know the patient's age, medical history, trauma, allergies and medical conditions, and needs the information readily available.

"We should not be in Babylon," said Galloway, of the 171st Airlift Squadron. "To me, that's where we are right now. Nobody can talk to each other." ❑

Ms. Funk is a staff writer for *Navy Times*.

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Moving our Wounded Warriors with En Route Care

CAPT Colleen O. McLarnon, NC, USN
LCDR Tony Catanese, MSC, USN

On a daily basis, the joint war fighters face an increasingly hostile and uncertain battlefield in the war against terrorism. To keep in step with the current joint vision war fighting doctrine that calls for military forces to be quickly mobile, agile, and dispersed, the new joint force health protection strategy for Combat Casualty Care requires a change from the traditional approach to combat medicine. Today medical forces provide essential care in theater and preparation for early evacuation out of theater to definitive care back at the casualty's home base. To ensure continuity of care and prevent degradation of the casualty's condition between levels of care, a requirement for en route care during transport has been established.

En route care, in conjunction with forward resuscitative surgery, has proven to be invaluable as they increase survivability and conserve military manpower. In most cases, combat casualties in jeopardy of losing life, limb, or sight can now receive resuscitative surgical intervention at forward operating bases. Following surgery, many casualties are still intubated, mechanically-ventilated, pharmacologically-paralyzed, and sedated. They require airway management, sedation, analgesia, fluid management, and occasionally blood transfusions. They usually have large surgical wounds, chest tubes, drains, and catheters. Often in the process of stabilizing after resuscitative surgery, they can still be showing signs of hypothermia, acidosis, and coagulapathy. Casualties like this require trained medical

Photo by CPL Marsha N. Garcia, USMC

HM3 Hessan, assigned to 3rd Battalion, 2nd Marine Division, flies onboard a Marine Corps CH-46E Sea Knight helicopter, to assist injured personnel during a medical evacuation flight.

personnel with critical care expertise and specialized medical equipment to provide advanced care and monitoring during transport to a higher level of care. This critically-injured, post-operative casualty requires more than first responder level care available during casualty evacuation (CASEVAC). The CASEVAC mission involves in-flight care of casualties by corpsmen from point of injury to initial resuscitative surgical intervention. The Marine Corps' En Route Care System (ERCS) was developed to support this newly-identified mission for en route care and includes medical equipment, medical treatment protocols, and consumable supplies for use by trained en route care personnel to provide the medical management of two critically injured, but stabilized casualties. These casualties are usually transported on board military aircraft from elements ashore to elements at sea or ashore. The requirement for delivery of en route care during transportation on ground assets or surface vessels is also a reality.

En route care is not a new concept. It can be dated back to the late 1700s when Napoleon Bonaparte appointed Baron Dominique-Jean Larrey to develop the medical patient care system for the French army. One of the findings was that leaving wounded soldiers on the field for several days increased complications and suffering. He felt that this delay in treatment resulted in needless deaths. "The remoteness of our ambulances deprived the wounded of the requisite attention," he wrote. In 1797, Larrey developed a method to send trained medical personnel into the field to provide medical care to wounded soldiers and to provide medical care en route to the field hospital. This action increased their chances of survival and benefitted Napoleon's conquest efforts. He designed a special carriage staffed with medical personnel to access all parts of the battlefield. The carriage became known as the ambulance volante, or flying ambulance.

In April 2003, by the direction of the Naval Medical Education and Training Command (NMETC), the Naval Operational Medicine Institute (NOMI), Pensacola, FL, assembled a working group of subject matter experts to develop the ERCS training plan. Critical care nurses and hospital corpsmen were determined to have the right skills sets to best support the en route care mission. The approved En Route Care Training Plan calls for both groups to receive training in aeromedical evacuation, helicopter egress/water survival, and trauma management. As introductory aeromedical training, Navy Nurse Corps officers attend the 2-week Air Force Critical Care Air Transport (CCAT) Course at Brooks Air Force Base, San Antonio, TX, and corpsmen attend the 4-week Flight Medic Course at Fort Rucker, AL. Once they have completed this training, a 5-day Naval En Route Care Course is taught for Nurse Corps officers and hospital corpsmen assigned to Force Service Support Groups (FSSG) billets under the Medical Augmentation Program (MAP). This course provides training on the USMC en route care mission, equipment, supplies, aviation physiology, stresses of flight, in-flight care, mission planning, aircraft capabilities, aviation safety, operational risk management, as well as practice in aircraft configuration and patient/equipment loading and unloading. Scenario-based teaching is provided to the students, both in the classroom and at the flight line during practical training evolutions, by experienced en route care and flight nurses, several of whom have recently returned from Iraq. At the end of this short course, the confidence level of the teams has escalated to a new level.

In January 2005, NOMI successfully conducted its first Naval En Route Care Course using a Mobile Training Team (MTT) consisting of six Nurse Corps officers experienced in en route care and flight nursing and one Naval Aerospace Physiologist from multiple commands, both active and reserve components. Just prior to their deployment to Iraq, the new Naval En Route Care Course was taught to 22 Navy nurses and 8 hospital corpsmen assigned to augment 2d Medical Battalion, 2d FSSG at Camp Lejeune, NC. HMM-266 at MCAS New River supported this training by providing two CH-46 helicopters and two combat-experienced crew chiefs. Due to deployment schedule constraints, the 5-day Naval En Route Care Course was compressed into 2.5 long days. Future 5-day courses are planned for 2005 for nurses and corpsmen assigned to deploying Marine Corps Forces.

En route care provides the critical link between levels of care by ensuring that casualties receive uninterrupted care during transport from point of injury or illness until arrival at a definitive care facility. As part of the force health protection strategy, en route care, as a mission and capability, continues to steadily evolve and grow as it works to support the joint war fighter at any time and at any place along the full spectrum of operations. ❑

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Navy Medicine Around the Globe

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1. Indian Ocean. RADM Robert D. Hufstader, Jr., Command Surgeon, U.S. Pacific Command, speaks through a translator to his left, to an Indonesian girl receiving medical care aboard the hospital ship USNS *Mercy*. Photo by PH2 Timothy Smith.

2. Gonaives, Haiti. CDR Pat Phillips, NC, smiles after she delivered a baby in the back of a pickup truck. Photo by HM2 Armando Ramon.

3. Camp Taqaddum, Iraq. Navy surgeons and Hospital corpsmen assigned to the Surgical/Shock Trauma Platoon (SSTP) operate on a Marine injured by an improvised explosive device. Photo by SSGT Jim Goodwin.

4. Gonaives, Haiti. HM1 Jennifer Michalski checks the teeth of a Haitian man. Reservists from Fleet Hospital Great Lakes and Navy Medical Reserve Command Portsmouth provided medical and dental care and education to more than 5,000 Haitians. Photo by PH1 F. Julian Carroll.

5. Fallujah, Iraq. LT Ryan Frieder, MC, treats a young girl from a village northeast of Fallujah for wheezing, rhonchi, and a fever. Photo by HM3(FMF) Shandon Torres.

6. Al Madinah, Iraq. HM2 Robert Sanders plays patty cake with local Iraqi children. Marine Corps photo by Ryan B. Busse.

7. Alor, Indonesia. HM3 Judith Quintana takes

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the temperature of an Indonesian patient in the village of Apui, where medical professionals from USNS *Mercy* are assisting tsunami and earthquake victims. Photo by PH2 Jeffery D. Russell.

8. Kandahar, Afghanistan. HM3 Kevin Meadowcroft removes metal fragments from the eyebrow of a Marine who was injured when and improvised explosive device detonated under his vehicle. Photo by CPL Jemssy Avarez, Jr.

9. Los Limones, Chinandega, Nicaragua. LCDR Polly Deblaey, NC, shows a group of young children how to wash their hair with anti-fungal shampoo. The Navy Operational Health Support Unit will treat up to 5,000 people at three different sites. Photo by JO2 Brian Brannon.

10. Gonaives, Haiti. HM2 Charles Mitchem makes a pair of shoes from cardboard for a boy with an infection on his toe. Photo by PH2 Roger S. Duncan.

11. Camp Taqaddum, Iraq. HMC Suzette Dugger, assigned to the Surgical/Shock Trauma Platoon (SSTP) helps offload a patient from an ambulance. Photo by SSGT Jim Goodwin.

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First Aid Under Fire

Gidget Fuentes

Corpsmen honored with Bronze Star for life-saving actions on Iraq front lines

CAMP PENDLETON, Calif. — As their platoon headed west along Iraq's Highway 1 toward Ramadi last May, men with the 1st Marine Division's jump command post glanced across the road at the Army trucks hauling mail and supplies.

It was a spring day along the dusty desert road, smack in the hotbed of the insurgent-held Sunni Triangle. The platoon, riding in six Humvees and light-armored vehicles, served as a mobile command-and-control unit for the division commander. As the Army logistics convoy approached them eastbound, an explosion slammed into the lead truck, sending a concussion wave at the Marine patrol on the other side.

The May 23 explosion from a bomb-loaded vehicle placed along the shoulder would prompt Hospital Corpsman 2nd Class (FMF) Andrew R. Slaughter to perform his first tracheotomy on a patient.

In full sprint, Slaughter, the platoon's "Doc," jumped onto the burning 7-ton truck and found his first victim, a soldier pinned by the knees. He felt the singeing heat of the fire as he struggled to free the soldier and get him on the ground and bandaged. A Marine sergeant alerted him to another soldier, whose throat was cut and bleeding. Slaughter grabbed his medical bag and ran 75 yards to the wounded man, lying near the median.

"He caught some shrapnel across his throat," Slaughter recalled. He could see a flap moving, so the soldier was breathing, but the corpsman worried that he would choke on the blood.

"So I took out my pocketknife I always take with me. I said, 'Look dude, I have to cut a hole in your throat.'"

Just then, Slaughter heard another explosion. Ambush! The men knew they faced even greater danger in the half-mile-long "kill zone." But he wasn't rattled. Holding his Cricket knife and its 5-inch blade at the soldier's throat, he enlarged a hole already cut open by shrapnel, inserted a tube and inflated the cuff to seal the airway. It took just seconds.

As he checked the soldier for other wounds, he heard that the lead light-armored vehicle had been hit. It was a coordinated attack — and Doc instinctively

U.S. Navy Photo

HM3 Andrew R. Slaughter receives the Bronze Star medal with "V" for valor and a Purple Heart medal at a ceremony held on board Camp Pendleton, CA, 9 February 2005.

knew he was needed. It wasn't the only time.

At least three times while in Iraq last year, the Navy corpsman responded to IED attacks that left a trail of wounded and dead. On Feb. 9, he received the Bronze Star medal with Combat "V" device for "heroic achievement" during combat operations. Slaughter credits the actions of his platoon with enabling him to react as he's supposed to as the platoon doc.

"I did what I had to do," he said during an interview in February at the Staff Noncommissioned Officer's Club at Camp Pendleton. "If I were to freeze … they would lose faith in their corpsman."

An attack at dusk

The second explosion that May day jarred everyone and marked a coordinated ambush.

"It seemed to me like an antitank mine hit the LAV from the side [of the highway]," said Gunnery Sgt. Dave Beall, the platoon sergeant, "because it went through the hole and hit the driver."

"We've been hit," came the call over the radio. Beall ordered Slaughter to race over.

Slaughter looked up to see a flaming vehicle a half mile away. Army medics took over care of the tracheotomy patient as Slaughter commandeered an Army Humvee and hustled to reach the casualties in the targeted vehicle. He didn't know what he'd see.

"I thought I had a crew of dead people," he said.

He jumped atop the burning vehicle and saw there was little he could do to save Staff Sgt. Jorge A. Molina-Bautista, a 37-year-old from Rialto, Calif., and vehicle commander with 1st Light Armored Reconnaissance Battalion at Camp Pendleton. Shrapnel had hit the staff sergeant, killing him instantly. Slaughter tried to refocus to help others in the vehicle.

"I have to detach myself from the situation," he said.

He didn't recognize his own roommate, whose face was covered in blood from a severe nose wound. "Well, how bad is it, Doc?" the sergeant asked him. "I bandaged up his whole head," Slaughter said, leaving just enough room for the Marine to see and breathe, then splinted his left arm before tending to other wounded.

'I did what I had to do. If I were to freeze . . . they would loose faith in their corpsman.'

HOSPITAL CORPSMAN
2ND CLASS (FMF)
ANDREW SLAUGHTER

A hard hit close to home

Slaughter fell into the corpsman rate on a whim, his eye on his post-military career opportunities.

"It was the job that had the most things that you can do on the outside," he said. As the platoon corpsman, Slaughter — yes, he's heard plenty about the ironies of his family name and chosen profession — feels a bond with the Marines he's assigned to help and save.

After that coordinated attack, which wounded 12 Marines and soldiers, Slaughter joined Beall, Pollum and Maj. Gen. James N. Mattis, the division commander, to move Molina-Bautista's body from the vehicle and later onto one of the medevac helicopters taking wounded from the kill zone. The loss of Molina-Bautista hit the platoon hard. The trip back to their base seemed like the longest ride ever. The mood was somber. Slaughter, his hands caked with blood, passed out bottles of water. Everyone was thirsty. They were in shock. They were angry.

"No one could believe what had happened," Beall said. "That was the first time the platoon lost somebody."

Many of them, Slaughter and Beall included, grabbed some cigarettes and lamented their loss. They weren't smokers before that day. They tended to each other, especially one of the LAV crewmen who was the only one in his vehicle not evacuated for medical care.

"Everybody had a hard time sleeping that night," Beall said.

As the platoon's corpsman, Slaughter felt a special bond to the men. "All the guys were my people," he said.

The next day, the division commander gathered the men. "General Mattis said, 'We can't let an incident like this stop me from commanding the Blue Diamond,'" Slaughter said.

'Here we go again'

Two weeks after the deadly May 23 attack, the men would get face-to-face with enemy fighters.

On a late afternoon in Ramadi, Beall and a four-vehicle patrol left one of 2nd Battalion, 4th Marines' combat outposts. The sun had just hit the horizon when the patrol rolled out on a road the Marines said was a safer bet, the gunny recalls. They were 10 minutes from reaching Camp Blue Diamond.

As the patrol rolled through a curvy section of road, a light flashed.

Photo by SGT Roman Yurek, USMC

Hospital corpsmen assigned to the Marine Expeditionary Unit (MEU) Service Support Group Two Six, 26th MEU, receive information about a simulated casualty so they can apply proper treatment. The drill was part of the 26th MEU's Special Operations Capable certification exercise. The exercise brought a close to the MEU's 6 months of training in preparation for upcoming scheduled deployment.

"It looked like a cheap Hollywood effect," Slaughter said of the fiery cloud and sparks flying through the air.

The concussion reached them; Slaughter was in the LAV behind the lead vehicle, Beall was in the third vehicle. It knocked the wind out of them for a second.

Worse yet, bullets were whizzing by. The enemy was firing from a field to the right of the road. Everyone jumped into the ensuing firefight, and the platoon killed eight that day, Beall said. But they also lost another: Lance Cpl. Jeremy L. Bohlman, a 21-year-old from Sioux Falls, S.D., died in the initial explosion.

Slaughter, who could do nothing to help Bohlman, checked the other Marines in the LAV as enemy fire continued to ring in the air. One Marine had to be helped from the vehicle as another collapsed from shrapnel wounds and shock.

But still they struggled to fight. The machine gunner, despite being wounded, somehow managed to rip the M240G machine gun from its mount and took it to the ground, where he laid down a base of fire against rounds coming from a house across the field.

Marines saw a four-door sedan race on a road near the house, then some small-arms fire. Another vehicle-borne explosive, they thought. Beall jumped on the radio. "Kill them," he told his machine gunner.

Everybody opened up on the field. Slaughter knew the crackle of AK-47 rounds, so he grabbed his M16 rifle to lay down fire. But shrapnel had lodged in the rifle, rendering it inoperable. So he grabbed his 9mm pistol and fired. "I killed two Iraqis," he said, noting the enemy fighters were 20 feet away when they caught his bullets.

The one Marines count on

The platoon, for the most part, returned home together last fall. Seventeen of the 29 members received Purple Hearts and several received Navy-Marine Corps Achievement Medals with Combat "V." Beall earned a Navy-Marine Corps Commendation Medal with Combat "V." Slaughter's Bronze Star with Combat "V," which he received during a ceremony Feb. 9 at Camp Pendleton, is the highest award the platoon received.

Sgt. Maj. Wayne R. Bell, the division's sergeant major, replying by e-mail from Iraq, gives much credit to Slaughter.

"Doc sets a positive and professional example of what a Navy corpsman should be," he wrote. "I have seen him in action several times under fire, and he is as cool and calm as they come."

Slaughter said he feels strongly that the platoon doc should be right where the platoon is — forward, whether it's on the line laying down fire or treating casualties.

"It's my job to treat the patrol, so I'm going to go there," he said. "Seconds are precious."

Slaughter knows he's a lucky Doc. "I came out of that unscathed," he said. "I'm very surprised — very surprised — from doing what we did."

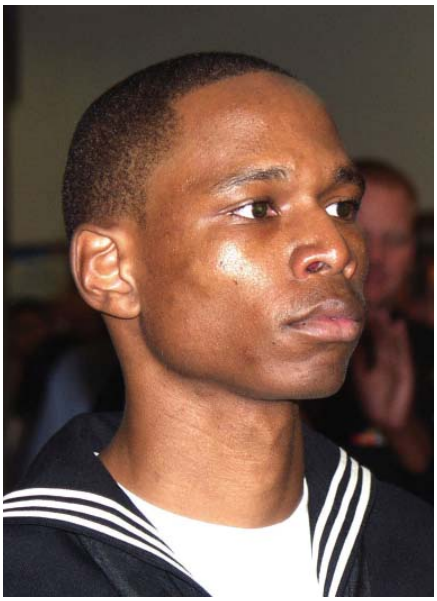
He credits the medical and field training he's received and admits to being a natural when it comes to dealing with stress. "That's the way I react in combat," he says. "My mind races a million miles a minute."

These days, he's helping teach and train other corpsmen and prepare them for their turn in the combat zone.

"You can't simulate the conditions out there … how tired and how stressed you are," he said.

So he tells them the stories so he hopes they become, like him, "more confident, more knowledgeable and more humble." ❑

Ms. Fuentes is the San Diego bureau chief for the *Navy Times*. This article is reprinted with permission of the *Navy Times*.



JO2 Joshua Smith

HM2 CJ Eison

Dodging Mortar Rounds in Cemetery a Defining Moment for Young 'Doc'

Gidget Fuentes

SAN DIEGO — For several nights last August, a sprawling cemetery became a battleground for the Marines of 1st Platoon.

Enemy mortars, fired by insurgents fighting to control Najaf, rained on them as flares hung in the black sky over their positions throughout the night of Aug. 6. Hospital Corpsman 2nd Class CJ Eison and his platoon grabbed cover in an enormous field of concrete tombstones. The night before, an exploding mortar had wounded a lieutenant, a sergeant and "Doc G," the platoon corpsman. With their evacuation, Eison would be the platoon's sole corpsman. Reality hit him hard.

"When he went down, I knew I was the only 'Doc' for my guys, 25 to 30 guys that I have to treat," he said.

But Eison, a 26-year-old from Hopkinsville, Ky., had to shake off fears that he couldn't cut it. Three months later, the Navy would bestow upon him the coveted Bronze Star medal for his valor in combat. In February, he received a Purple Heart for his injuries.

By daybreak Aug. 6, "it was rounds up again," he said. Searing, 100 degree-plus heat felled some men with Bravo Company, 1st Battalion, 4th Marines, from Camp Pendleton, Calif. The battalion, part of the 11th Marine Expeditionary Unit, had stepped into a week of heavy fighting against insurgents who had terrorized the south-central Iraqi city. Eison, from San Diego Naval Medical Center, had joined the platoon in July in Kuwait.

That summer night, Eison faced his biggest test when a mortar round burst just feet from him.

Doc, his platoon sergeant and the radio operator were lying under a gazebo. He couldn't sleep, so he decided to do a quick round to check on the men.

"I got real nervous," he recalled during an interview at Balboa Hospital, where he's assigned. "As soon as I stood up, I hear three mortar rounds come up. I knew what they were."

Two of them landed a distance away, but another whistled very near. "The third one landed, like, three feet in front of me," he said. The blast knocked him down.

Immediately, he stood up, and leaped across the gazebo. "My automatic instinct was to take cover," he said. But he fell down. He tried to hustle over to other wounded Marines, "but I couldn't bear any weight on my foot."

His left foot had no feeling. "I thought my foot was gone," he recalls. But the sight of his boot, still attached, soothed him.

The sound of the platoon sergeant yelling "Doc!" snapped him back. "I knew I was the only Doc, the only one left, for my guys," he said. "I yelled to them, 'I'm over here! I'm hurt!' I was in pain, but I tried to keep my composure."

Eison directed several Marines to treat him, and he asked about the condition of the other wounded men. His left leg and right knee caught 12 pieces of shrapnel. One piece cut into his face but didn't go through his right cheek. The platoon evacuated him and three Marines wounded in that attack. After a stop at the battalion aid station, they were taken to Baghdad; Ramstein, Germany; Bethesda Naval Hospital, Md.; and then, for Eison, San Diego.

After months of physical therapy, Eison maintains a positive outlook.

He's off crutches, and he's taken to running again on streets near his San Diego home, even with a slightly numb foot. "Yeah," he said. "I've got a little swagger. But I can get up and down the street."

While reports surrounding his award tout his actions, "they say I saved lives, but I say they actually saved mine." ❑

Ms. Fuentes is the San Diego bureau chief for the *Navy Times*. This article is reprinted with permission of the *Navy Times*.

Sumatra Tsunami Response:
NAMRU-2 Establishes a Biomedical Reference Laboratory

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LCDR Shannon D. Putnam, MSC, USN
LT Jonathan S. Glass, MC, USNR
ENS Jodi Rabideau, USN
CDR Jason D. Maguire, MC, USN
CAPT J. Kevin Baird, MSC, USN

In the early morning hours of 26 December 2004, tectonic plates near the western coast of the Indonesian island of Sumatra shifted violently, producing a magnitude 9.0 earthquake and releasing a surge of energy into the Indian Ocean. While immediate damage near the epicenter in cities such as Banda Aceh, Calang, and Meulaboh was significant, the worst was yet to come as powerful tsunamis raced toward shores across Southeast Asia and East Africa. As the morning progressed, populations in 11 nations bracketing the Indian Ocean were stricken by one of the most immense natural disasters the world had ever experienced.(*1*)

As the waves slammed onto shore and raced inland, they left a path of immeasurable carnage resulting in over a quarter million dead, wounded, or missing (to date), hundreds of thousands of injuries, and the displacement of more than one million people. Beach resorts were washed away; entire villages were flattened; and cities turned to rubble. Nowhere was the disaster more severely felt then in Indonesia where, within an hour, more than 200,000 people disappeared or were mortally injured.(*2*)

In the wake of the calamity, U.S. military forces in the Pacific mobilized medical and humanitarian aid resources. The first large response came from the USS *Abraham Lincoln* carrier group that had just completed a port call in Hong Kong. In the initial weeks, the Navy, Marines Corps, and Air Force deployed 14,000 military personnel to the region in 25 naval warships, 57 helicopters, and 5 C-130s. The largest portion of the rescue and recovery operation was centered on the stricken province of Aceh. During the first 21 days, over 1,000 missions were flown in and

Photos courtesy of NAMRU-2

NAMRU-2, Australian, and New Zealand team in front of the infectious diseases reference laboratory.

around Banda Aceh delivering 2.3 million tons of goods and transporting critically injured refugees.(*3*)

Teams of Navy physicians were among the first responders to arrive in Sumatra. As the magnitude of the disaster became evident, the U.S. Embassy in Jakarta requested that U.S. Naval Medical Research Unit-2 (NAMRU-2) send a team of physicians to assess medical needs in the afflicted community. In short order, a recommendation was made to stand up an infectious disease reference laboratory to provide laboratory assistance to healthcare responders as they battled diseases of epidemic potential in the region.

NAMRU-2, located in Jakarta, Indonesia, is one of five OCONUS Department of Defense (DOD) infectious disease research laboratories. NAMRU-2 is tasked by the Surgeon General to conduct research on infectious diseases that threaten deployed Sailors, Marines, and Soldiers. This is accomplished through the study of epidemic and endemic diseases of public health importance throughout Southeast Asia. Research efforts have provided an assessment of emerging and reemerging bacterial, viral, and parasitic diseases that have the potential to cause epidemics. Emphasis is placed on disease surveillance, disease vector transmission dynamics, microbial drug resistance, preclinical and clinical trials of DOD sponsored vaccines and developing rapid diagnostic tests.

The specter of epidemic disease among a susceptible displaced population in the aftermath of the tsunami caused substantial concern among local and international healthcare providers. Medical planners expressed grave fears as to the likelihood of enteric vector-borne diseases such as cholera and typhoid and vector-borne diseases such as dengue and malaria. In response, the Indonesian government requested that the World Health Organization (WHO) coordinate efforts of dozens of non-government organizations (NGOs) rushing to provide medical humanitarian assistance, including infectious disease surveillance and outbreak investigation. Under the WHO umbrella, NAMRU-2 partnered with the Indonesian Ministry of Health (MOH) to build an infectious disease reference laboratory in a project sponsored with a grant of $570,000 from the U.S. Agency for International Development (USAID). The primary goal of this grant was to develop a platform that could serve as a public health reference laboratory for those diseases of epidemic potential among displaced persons. As NAMRU-2, USAID, and MOH officials worked out the details for the laboratory, an advance team departed on 13 January to locate a suitable facility from which to work.

Devastation along an inland river approximately 6 km from the shore in Banda Aceh. Large fishing boats were left on city streets as the wave retreated.

Upon arrival the team found a ruined infrastructure and few resources. In the region around the city of Banda Aceh, 180,000 (*2*) casualties, including those estimated missing, had decimated the population of the province. In the city itself, greater than 50 percent of all buildings were destroyed or damaged by the earthquake or tsunami. Five major hospitals had originally serviced the area with four sustaining moderate flooding and/or earthquake damage after 26 December. Rumah Sakit Zainal Abidin, the only non-military provincial hospital, previously managed a 600-bed inpatient capacity. Flooding and earthquake damage left a large portion of the hospital damaged, diagnostic equipment unusable and many among the staff dead, missing, or displaced. This decimation of a medical infrastructure left dozens of injured immobile patients to die of their injuries.

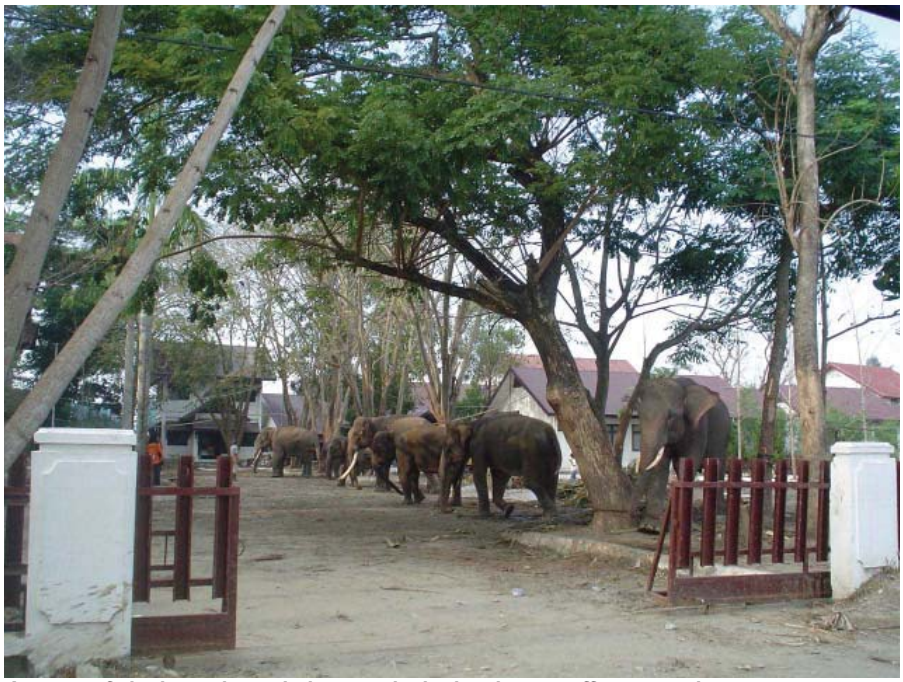
The NAMRU-2 team set up in a small building near the site of this hospital within the complex of the

Aceh provincial laboratory. Supplies to build and equip the new laboratory were shipped from Jakarta to the military airport in Banda Aceh on five separate C-130 flights coordinated by the Air Force. USAID facilitated the transport of supplies to the lab site, while NAMRU-2 staff worked to install water, electricity, and equipment as well as repair the building. On 18 January, the advance team was augmented by infectious disease experts and laboratory technicians from NAMRU-2 and the MOH who both organized the lab and coordinated the collection and shipment of specimens from WHO-affiliated medical organizations.

During this time, multiple risk factors for epidemic diseases had developed in the region. A stressed refugee population struggled to maintain adequate clean water supplies and proper disposal of human waste. Brackish water covered the landscape as rainwater diluted pools left by the tsunami, and the risk for an increase in mosquito populations rose. Limb-threatening secondary infections and sepsis complicated untreated or poorly treated wounds. In the first weeks after the tsunami, close to one hundred patients with injuries relating to the disaster were being treated at Rumah Sakit Zainal Abidin. These included 61 patients with tetanus, of which 11 died. Tetanus patients, in numbers unheard of in developed countries, provided the international healthcare workers with a clinical challenge. Acute respiratory diseases also contributed to morbidity and mortality. Many victims developed an aspiration pneumonia that was termed "tsunami lung" by the local physicians. A multitude of agents including fungi, bacteria, and chronic hepatitis contributed to disease.

The front line tests available at the Aceh laboratory focused on bacterial culture and serotyping, blood parasite microscopy, and serology tests to identify acute/chronic exposure to many infectious agents of interest. In addition to respiratory diseases, the capacity to diagnose water and vector-borne diseases were developed. In the first 8 weeks after the disaster, the NAMRU-2 laboratory analyzed over 400 samples, identifying cases of malaria, dengue fever, tuberculosis, shigellosis, measles, hepatitis A and E, and wound spesis. In total, the laboratory had the capability to provide diagnosis for over 15 agents of disease.

In an effort indicative of the collective response of nations from across the globe to provide humanitarian assistance after the Asian Tsunami, a biosafety containment cabinet, the final piece of laboratory equipment to be installed, was lifted into place by Indonesian, New Zealand, Australian, and U.S. Navy personnel, and the reference laboratory officially opened for business Tuesday, 25 January. While the people in Sumatra face a long and difficult road to recovery, Indonesian physicians and public health officials can be confident in the diagnostic resources that are now at their disposal to recognize emerging infections and stem potentially devastating epidemics.



A group of elephants brought in to assist in the cleanup effort around Banda Aceh.

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All the authors are attached to NAMRU-2, Jakarta, Indonesia.

Guests of the Emperor Premiere

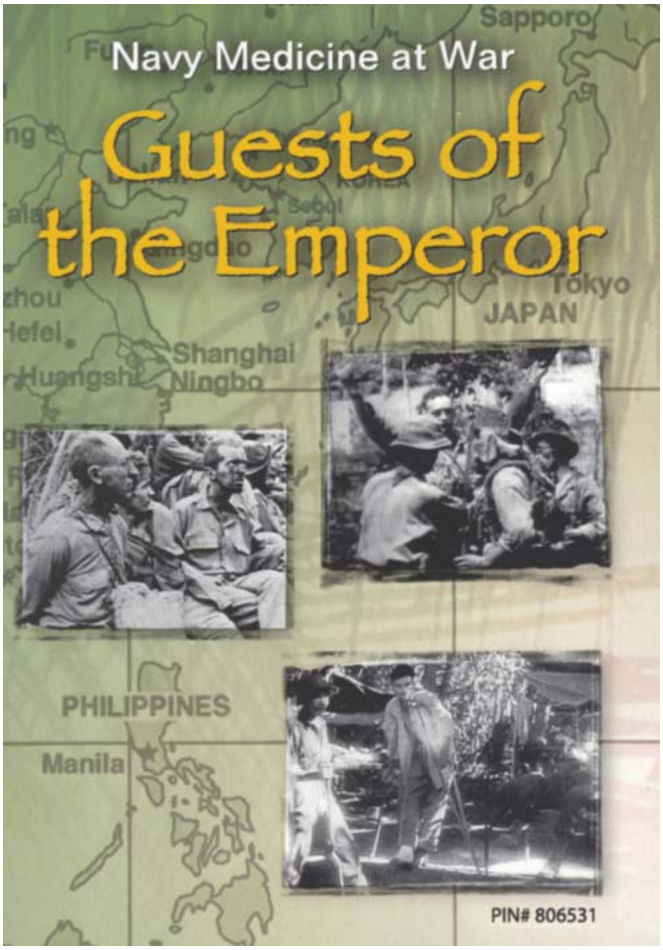
Like every art, film making has not escaped the critic's eye as something illusory. It is often said that everything we see on the big screen is just a collection of frames that our minds perceive as something real. Whether or not movement in film may be real or trickery there is little doubt that watching the 30-minute documentary *Guests of the Emperor* is in fact a very moving experience. And the story it tells—that of the Prisoner of War (POW) experience in World War II—is both tragic and yet all too real.

On 25 February 2005 guests of BUMED, including veterans of the Navy community and a former World War II POW, came to the U.S. Navy Memorial in Washington, DC, for the premiere of this landmark documentary about Navy medical personnel—doctors, dentists, nurses, and hospital corpsmen—who were prisoners of the Japanese. Despite having little food and practically no instruments or medicine, these heroic men and women continued to practice their healing art under unimaginable circumstances. Some survived; many more succumbed to the brutal captivity, forced labor, and starvation at such horrible places as Corregidor, Camp O'Donnell, Cabanatuan, Davao, Tarlac, Bilibid, Umeda, Zentsuji, Fukuoka, Shinagawa, Tsumori, Omori, Ichioka, Kobe, Manchuria, and the notorious Japanese "hell ships." It is estimated that the Japanese held about 25,000 American prisoners of war.

In introducing *Guests*, Navy medical historian Jan Herman, writer and producer of the video, emphasized that it was made to "preserve our heritage and bring the experiences of the World War II veterans to today's practitioners of Navy medicine." Mr. Herman continued, "What makes it all so urgent is that the men and women who Tom Brokaw has called the 'Greatest Generation,' are quickly disappearing from our midst."

Guests of the Emperor is the third installment in the six-part video series, Navy Medicine at War. DVD copies can be obtained by writing to:

Bureau of Medicine and Surgery
2300 E Street, NW
Washington, DC 20372-5300
ATTN: Office of the Historian ❑



On 9 April, the 63rd anniversary of the fall of Bataan, TV stations throughout the Philippines aired "*Guests of the Emperor*," the latest release in BUMED's Navy Medicine at War series. The production is currently being translated into Tagalog to reach a wider audience in that nation, which is currently celebrating the 60th anniversary of its liberation by U.S. forces near the end of World War II.

Epidemiology of "High Utilizer" Visits at a Branch Medical Clinic

CAPT Bruce K. Bohnker, MC, USN
LCDR Annette M. Von Thun, MC, USNR

Population Health Navigator (PHN) has been implemented to support Population Health programs in Navy medicine.(*1*) It delivers standardized metrics and predefined queries for 5 clinical preventive services and 10 diseases or conditions. PHN is a web-based medical informatics tool that aggregates Composite Health Care System information on patient visits. One interesting capability of PHN is the ability to generate lists of "high utilizer" patients, defined as patients enrolled to the facility that had over 10 visits in the past 12 calendar months. These patients would seem a likely group for analysis to develop strategies and to possibly reduce visits since there is a direct relationship between visits and costs.

A list of patients for a local branch medical clinic meeting the "high utilizer" classification was obtained using PHN. This list includes primary care visits to the following clinics: family practice, primary care, flight medicine, pediatrics, adolescent, internal medicine, intermediate care, and emergency department. The PHN module excludes visits for routine pregnancy (V20), routine infant or child health check (V20.2), long-term current use of anticoagulants (V58.61), desensitization to allergens (V07.1), and prophylactic immunotherapy (V07.2). This facility had both military acute care as well as family practice clinics with an enrolled population of 21,319 patients. A descriptive epidemiological analysis was conducted to better define the patients and their reasons for visits. Statistical analysis was performed using SPSS Version 10 from Statistical Software for Social Services (www.spss.com) and EPI-INFO 6.02.(*2,3*)

There were 753 people meeting criteria for "high utilizer" representing 3.5 percent of the enrolled population. Cumulatively, these patients had 11,390 individual visits during the 12-month period (15.1 mean visits per high utilizer patient). The 418 active duty personnel had 6,373 visits (15.1 mean visits, SD = 5.4, range 11-47 visits). The 218 active duty family members had 3,207 visits (14.6 mean visits, SD = 5.7, range 11-46). The 117 retirees had 1,810 visits (15.4 mean visits, SD = 7.3, range 11-64 visits). Figure 1 presents a comparison by beneficiary category for enrolled population and visits. Figure 2 presents a comparison by age group for enrolled population and visits. Table 1 presents the top ten ICD9 visit codes by beneficiary status.

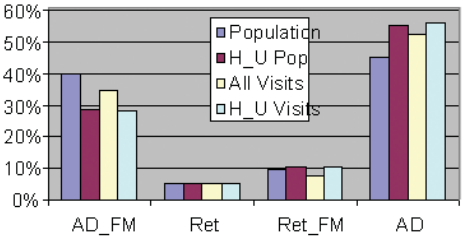


Figure 1

This initial analysis presents the descriptive epidemiology of a group of "high utilizer" patients seen at a branch medical clinic. The analysis is limited but suggests strategies that could be applied to enhance demand management. The most striking observation is the number of active duty personnel who had over 10 visits in the past year. It is unclear why these active duty personnel have so many clinic visits, and this would seem to adversely impact their productivity in the workplace. Second, this information on "high utilizer" patients should have ongoing review and assessment by clinic staff leadership, with consideration of plans to alter care patterns. Overall, two PHN-derived metrics would seem worth tracking over time at the local facility level— the percentage of high utilizer patients, and the average number of visits for each high utilizing patient. The two metrics are complimentary, but would provide reasonable tracking information for clinic leadership. Though not presented, the analysis found that 33 percent of the "high

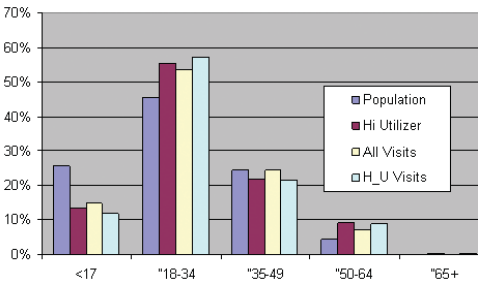


Figure 2

utilizer" patients did not have a designated primary care provider. This would suggest better implementation of current Tricare Management Agency (TMA) goals for Primary Care Management By Name (PC-MBN) (*4*) which should assist with case management of these personnel. This would also support recent TMA initiatives for better medical management programs.(*5*) Finally, the high utilizer database provides opportunities for further analysis including better characterization of the high utilizer patients as well as opportunities for improved management, per the goals of clinical epidemiology.(*6*) As shown in Table 1, opportunities for improved demand management may be developed, and incentives considered supporting demand management efforts. Various strategies have been promoted for expanded self-care, telephone triage, and demand management.(*7,8,9,10*)

The limitations of this study should also be considered. The computer analysis program supporting PHN excludes certain types of visits in the high utilizer calculations, thus the generated lists may omit certain patients or downplay certain conditions. Additionally, the impact of referrals is not accounted for since the analysis was restricted to patients seen at primary care clinics. The analysis has the potential limitation of being derived from a one-time, one location analysis of information. Further, inaccurate patient visit coding might also influence these findings.

In summary, PHN offers the capability to generate lists of patients, characterized as "high utilizers", who have had more than ten visits in the past year. Improved management of that group of patients through PHN has the potential to improve healthcare provision and utilization within Navy medicine.

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Active Duty Visits (n = 6,373)	%	AD Family Member Visits (n = 3,207)	%	Retiree Visits (n = 1,810)	%
Routine Medical Exam	8.7	Acute URI NOS	6.8	Hypertension NOS	6.7
Health Exam-Group Survey	3.3	Otitis Media NOS	4.0	DMII w/o Complic, Not Uncontrolled	5.8
Viral Infection NOS	3.2	Follow-Up Exam NEC	2.5	Acute URI NOS	2.6
Acute URI NOS	3.2	Abdominal Pain Unspecified Site	2.4	Routine Medical Exam	2.5
Hypertension NOS	2.4	Routine Medical Exam	1.7	Asthma w/o Status NOS	2.2
Lumbago	2.3	Migraine w/o Ntrc Mgrn	1.6	General Medical Exam NOS	2.2
Sebaceous Cyst	2.2	Hypertension NOS	1.4	Lumbago	1.7
Noninfectious Gastroenteritis NEC	1.8	Lumbago	1.4	Abdominal Pain Unspecified Site	1.4
Backache NOS	1.4	Acute Pharyngitis	1.3	Issue Repeat Prescription	1.4
Sprain NOS	1.4	Backache NOS	1.3	DMII w/o Complic, Uncontrolled	1.4

Table 1

The Naval Legacy of the "House of Squibb"
Part I: "Crusade for Purity" (1819-1858)

James M. Schmidt

On the morning of 19 March 1945, fully armed and fueled planes crowded the flight deck of the Essex-class aircraft carrier USS *Franklin* (CV-13), preparing to launch attacks on airstrips, ports, and other targets on the Japanese home islands. Seemingly out of nowhere, an enemy plane approached undetected and dropped two bombs on the carrier's flight deck. LCDR Samuel R. "Dr. Sam" Sherman, a flight surgeon on *Franklin*, was at his battle station on the flight deck when the bombs hit. He was blown 15 feet into the air and thrown against a steel bulkhead. When Sherman recovered he could see that there were already hundreds of crewmen who needed his assistance.(*1*)

Fortunately, Sherman had put his civilian experience in emergency rooms and trauma centers to good use and was prepared for just such a disaster: "I had a number of big metal containers bolted down on the flight deck and the hangar deck," he recalled. "These were full of everything I needed, splints, burn dressings, medications, plasma, and [other] intravenous solutions." Sherman also wore a specially equipped coat similar to that used by duck hunters in which he carried morphine syrettes and other small items.(*2*)

In a telegram sent after the battle, VADM Ross T. McIntire, MC, Surgeon General of the Navy, thanked the employees of a company whose hard work helped ensure that Sherman was well equipped to meet the emergency. McIntire noted that medical supplies of their manufacture "played a vital part in the treatment of men wounded or burned aboard *Franklin*." He credited their penicillin and sulfa drugs as "a tremendous factor in combating infection and wounds," and their morphine syrette as being of "inestimable value in allaying pain." Especially interesting is that it was a Navy surgeon just like the *Franklin*'s "Dr. Sam"—Edward Robinson Squibb—who founded that company nearly a century before.(*3*)

Squibb's experience in the Navy led him to make significant contributions to the advancement of pharmacy and medicine in the late nineteenth century. His experience with poor quality drugs at sea set him on a lifelong course as an advocate for the preparation, supply, and regulation of pure drugs. While stationed at the Navy's medical laboratory, Squibb secured a lasting legacy as a scientist and inventor by perfecting a method to produce ether of high purity, suitable for anesthesia—a process he shared without patent or royalty. Honest to a fault, he was not afraid to criticize the service when he saw room for improvement.

Squibb was born 4 July 1819, in Wilmington, DE, to Quaker parents, James Robinson and Catherine (Bonsall) Squibb. He demonstrated an early interest in a medical career but his family's financial situation did not allow for it. At the age of 18, Squibb began apprenticeships with two Philadelphia apothecaries, Warder Morris and J.H. Sprague. After 5 years he had saved sufficient funds to attend Jefferson Medical College in the same city. He received

his MD degree in 1845 and set up a private practice while simultaneously holding a number of positions at Jefferson, including assistant instructor in anatomy, curator of the museum, and clerk of the school's hospital clinic.(*4*)

In 1847, upon the outbreak of the Mexican War, Squibb joined the Navy as an assistant surgeon, a decision that did not sit well with his Quaker family or local Meeting, which disowned him on the grounds that he had violated his pledge of pacifism. Squibb saw no contradiction in his service, arguing that as a doctor he would be assuaging suffering and participating in the Navy's mission to eradicate the overseas slave trade.

Squibb served more than 4 years at sea, first for more than 2 years as medical officer on the brig *Perry* in the Caribbean, then a few months on the store ship *Erie*, and finally a cruise of nearly 2 years on the frigate *Cumberland* in the Mediterranean. Fortunately for us, Squibb was an energetic diarist, filling thousands of journal pages in tidy script and great detail, beginning with his cruise on the *Erie*. From his first entry—"Land ho at daylight this morning!"—the pages teem with wonderful descriptions of voyages and ports of call that have enchanted Sailors for centuries, including Gibraltar, Naples, and Pompeii.(*5*)

The pages also abound with disgust with his captains and with living conditions at sea, including discipline, punishment, diet, and hygiene, all of which left the Sailors in his care vulnerable to disease. The situation was made worse by the primitive medicine and pharmacy practiced on the ships. Squibb was especially dismayed at the poor quality drugs available on board. The Navy purchased its medical supplies the same way it purchased rope and oakum—from the lowest bidder with few specifications for quality. Manufacturers often supplied medicines that were worm-eaten or mixed with sand, chalk, twigs, and other foreign objects. The experience set Squibb on a lifelong advocacy of regulatory standards for drug purity.

Shortly after his return, Squibb took a daring step for a junior officer and published two pieces that were critical of the Navy. The first was a 2,500-word letter published in Philadelphia's *North American and United States Gazette* titled simply "Punishments in the Navy." He rebuked the service for the lack of discipline on its ships, placing part of the blame on Congress for recently banning the practice of flogging. Squibb took no particular delight in corporal punishment. Years later he confided in his journal that he avoided whipping his young son because "even the thought of it cost me too much." He also acknowledged in the *Gazette,* "There is no doubt that the punishment by flogging was abused." Still, as a surgeon, he recognized that the suggested alternative of imprisonment for 20 days on a diet of bread and water would not work. Squibb explained that as it was:

". . . the health and constitution of men have a great deal to withstand . . . put a man on ship for 20 days on bread and water and even if he should come out without developed disease it will require 20 other days to fit him again for exercise as a full hand upon a topsail yard, at his gun, or in any other position where physical strength was required."(*6*)

He concluded with a plea that Congress and the Navy find a happy medium wherein the abuses were corrected and discipline maintained.

The second piece was an article describing in detail the medical aspects of Squibb's tour on *Cumberland*. Published in the *American Journal of the Medical Sciences*, the report is a great work of scientific, statistical, and clinical observation, even by today's standards. Squibb detailed a record of more than 1,600 cases of disease among a ship's company numbering less than 500 men. He supposed that no community like in number and "in any other condition of life" would exhibit as much disease in 2 years. Why then the Navy? Squibb pointed his finger at stubborn attachment to outdated routine and tradition, suggesting:

". . . customs of past ages had degenerated into laws jealous of innovation, and therefore resisting improvement. Scanty ventilation, damp decks, and a diet that never varies, in climates and seasons always varying, and all these administered with a judgment that will not be enlightened by the means placed at hand, are not conditions under which a healthy, energetic, progressive race of men are properly represented to the world."(*7*)

Squibb did not just grumble; in the paper he made specific suggestions as to how changes in diet and ship construction could improve the health of the men on board.

In January 1852 Squibb was ordered to the Naval Hospital in Brooklyn where the Navy, supported by limited funds from Congress, established a drug manufacturing and research laboratory. Dr. C.O. Whelan, Supervisor of the hospital, named Dr. Benjamin Franklin Bache (great-grandson of his namesake) as director and Squibb as assistant director. Bache left the outfitting and operation of the laboratory to Squibb, a duty in addition to his other obli-

gations that included staff surgeon, supervising employees, and even preparing menus.(*8*)

The laboratory found its home in a building erected several years before on the grounds of the naval hospital. The building, shaped like a parallelogram and three stories high, was originally intended as a "pest house" for patients with smallpox and other infectious diseases. Squibb devoted the basement to apparatus for furnace, solution, distillation, and evaporation operations. In a smaller room above and away from the manufactory he maintained a laboratory for performing analyses and tests. The second story held a storeroom where medicines were kept ready for distribution as needed.(*9*)

This portrait of Edward R. Squibb is part of the Naval Historical Center collection.
Photo by Med Photo, NMETC, Bethesda, MD.

Eager to see that the Navy would benefit from medicine manufactured to an exacting standard, Squibb went straight to work making drugs for the hospital, ships calling at the Brooklyn yard, and other stations. Nor did he limit his experiments to the laboratory's intended mission of improving the quality, quantity, and ready availability of medicines for the fleet. He also examined adulterations in provisions, clothing, soap, tobacco, lighthouse oils, sheathing copper, and other supplies provided by contractors.(*10*)

Squibb also performed a good deal of original and applied research; indeed, the first dozen of his more than 100 published scientific papers were based on work conducted at the Navy laboratory. He concentrated first on perfecting the preparation of anesthetics, then an urgent need. The utility of ether and chloroform had been recognized for some time, but physicians hesitated to use them because the preparations then available varied so much in quality, and their action was so uncertain, that they proved more of a risk than a benefit. Originally, ether was made in crude stills over an open fire. After much experimentation, Squibb developed a process using steam as a heat source that resulted in very pure ether, not to mention a much less dangerous procedure. Unwilling to capitalize on his discovery personally, Squibb published a full account of his process in the *American Journal of Pharmacy*, with drawings, directions, formulas, and costs.(*11*)

The economic pressures of raising a growing family (Squibb married Caroline Lownds Cook on 7 October 1852, and his first son, Edward Hamilton, was born the next fall) prompted him to write the Secretary of the Navy (through channels) for an increase in pay, arguing that his salary was not commensurate with his duties and success at the laboratory. Despite the endorsements of

Dr. Bache, the commandant of the Brooklyn Navy Yard, and the Chief of the Bureau of Medicine and Surgery, the Secretary rejected Squibb's request.(*12*)

Squibb had a long-standing offer from a longtime friend, Dr. Sam White, to join a profitable medical practice in Georgia. His work at the Naval Laboratory had attracted attention and he had a number of other offers as well. Squibb resigned his commission in late 1857 to supervise the laboratory of the Louisville Chemical Works in Kentucky. A year later, with promises of contracts from Dr. Richard Satterlee, then the Army's chief medical purveyor and later Surgeon General, Squibb borrowed $1,300 and opened his own firm in a small brick building in Brooklyn.(*13*)

He spent October and November 1858 shopping, buying, and installing apparatus for his laboratory as carpenters, mechanics, masons, and painters put on finishing touches. He printed circulars detailing his credentials and a list of drugs he intended to manufacture and sell. Squibb filled his first order in early December, and with samples in the hands of the Army and influential druggists and physicians, the future of his enterprise seemed bright indeed. But less than 3 weeks later, on the night of 29 December 1858, disaster struck, as detailed in an account carried in the following day's *Brooklyn Eagle*:

"About 6 o'clock last night a fire broke out in the chemical factory of Dr. Edward K. [sic] Squibb, No. 149 Furman Street. The firemen were promptly on the ground, and obtaining a good supply of Ridgewood water, soon suppressed the flames. About 9 o'clock it again burst out and the contents were totally destroyed."(*14*) *To be continued*

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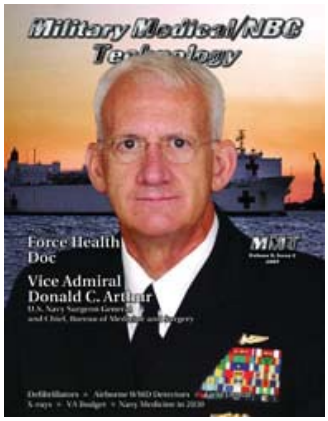
Present day morphine syrette.



Military Medical/NBC Technology (MMT) Magazine interviews VADM Arthur

In the March 2005 issue of Military Medical/NBC Technology (MMT) ***Magazine, VADM Arthur was interviewed about Navy medicine. The article is reprinted with permission from MMT.***

Q: How would you characterize the current condition of Navy Medicine at the end 2004? What I mean is that in looking at, for example, doctrine, policy and procedures, against what is being learned from the operational theaters, are there any major gaps that need to be addressed?

A: The military health services for the Navy, Army and Air Force, plus the Marine Corps, for which the Navy supplies health services, are actual health systems. They are not disease care industries as we see in much of today's economy. We value health first and foremost. Our system is robust, something of which I am very proud. We have the best health benefits in the world through TRICARE.

We are judged not by how many procedures we perform, but how many sailors, Marines and other service members are fit for duty. Our focus is fundamentally different than it is in the civilian sector. And this hasn't changed with the war. It doesn't change with deployments. It doesn't change with any economic undulations. This is something that is stable—we focus on the health of our beneficiaries.

So what has changed in 2004? Nothing as far as our health services delivery. What has changed is a very high operational tempo, as we have gone into Afghanistan, Iraq, Kuwait and to many other deployed locations. This high operational tempo has put a strain on our military treatment facilities because we have so many people deployed. We have reservists who help augment our treatment facilities and replace people who have deployed, and in many cases the reservists are deploying.

Returning casualties also put an enormous strain on the system. Although many of these wounded personnel have been more seriously injured than in any other previous conflict, their survival rate has been very, very high. If a casualty has a pulse and is able to reach a medical professional in the field, the chances are well over 95 percent that they are going to survive.

We have had people with extraordinary injuries requiring a tremendous number of surgeries and rehabilitation that have really taxed our system. The Chief of Naval Operations asked me a question before he selected his next surgeon general. He asked, 'Can we have our casualties treated at civilian hospitals?' I said certainly. Civilian hospitals will deliver great care. They will treat the illness and injuries with great expertise; however, they will not be able to do two things that the military health system does very, very well.

Number one, they won't understand that the injuries are not just to the patient, but are to that person's entire family. That family needs to be involved in every process of the care and they need to be there to help the patient psychologically. And we, Navy Medicine, need to be there to tell the family that we care—that we will take care of their son or daughter. If American moms and dads are not confident that if they send their sons and daughters to us that the best healthcare system in the world will take care of them, then we will not have any more recruits.

Q: And the second?

A: The second thing is, as good as Johns Hopkins, Mayo or any number of other great places in this country may be, they won't understand that these Marines, sailors or soldiers are still in combat. They may be lying in a bed at Bethesda, Walter Reed, Landstuhl or wherever they might be, but the psychological effects of where they have been, what they have encountered, what has happened to them has become a fabric of their lives. The Military Health System is uniquely set up to understand, emphasize and treat those kinds of issues—because we have been there too.

As Bethesda's commander, I wondered how we were going to take care of these casualties and ourselves. How, psychologically, could we do this job day after day. But what I found was reassuring. When the hospital ship

USNS Comfort returned with over a thousand of our staff, these personnel began again staffing our wards. It was evident they had a unique appreciation for what these wounded patients had been through.

To my surprise it was the wounded personnel that motivated our staff. With their tremendous morale, many with serious injuries just wanted to go back to their units. Their thoughts were with their fellow Marines and sailors still fighting overseas and they still had a job to do. This was tremendous motivation to our hospital staff.

One staff member I remember seeing while walking through the ward with Ms. Beverly Young, wife of Congressman C.W. Bill Young. Ms. Young recognized him from several of her many previous visits. The corpsman, in civilian clothes, was sitting next to a bed with a wounded Marine reading to him. She looked at him and asked if it wasn't his day off? He stopped reading and said, "Yes Ma'am but this Marine's family can't get here until tomorrow and I didn't want him to be alone today." It is that kind of dedication, that kind of understanding that I don't think you get in a civilian hospital or in any place where people haven't shared the kind of emotional experiences like going into combat.

I was in Desert Storm and just came back from Iraq where I visited many forward deployed areas. These corpsmen are my heroes. They go door to door with their fellow Marines braving whatever is beyond that door. War fighters cannot go into combat unless they know that medical infrastructure is there for them at the point of injury with the right expertise. When you call a corpsman or a medic up, they will come running through the battle to get to a casualty—because it's what they do.

Q: We've all heard stories of casualties coming back and staying in intensive care for weeks at a time.

A: As I mentioned previously, we are seeing wounded personnel return with very significant and challenging injuries. They survive because of the rapid actions of the corpsman to stabilize them and the expertise in the forward resuscitative surgical suites to immediately stop the bleeding and resuscitate these patients. Following this stabilization, the Army's Black Hawk helicopters medically evacuate them to higher echelons of care in theater. Finally, this medevac system, which is set up by the Air Force and works perfectly, transfers these wounded personnel to Landstuhl or to some other level 3 facility and from there back to the U.S.

Q: What about when they are back in the states?

A: The next step is to make sure that we are in full partnership with the Department of Veterans Affairs and other rehabilitative facilities. Many of these wounded personnel cannot return to active duty and require more sophisticated, long-term physical care and rehabilitation. The VA has not seen this extent of injuries from combat in 30 years. We now have a tremendous number of casualties, some very severe, which have overlying psychological issues as well.

We are helping the VA by providing staff to work alongside them and help them understand the needs of the Marines, sailors and airman as well as their families. I recently visited the Tampa VA hospital and I was truly impressed with their CEO, a decorated Vietnam veteran who understands why he is there and why the hospital exists. I talked with the Marines, sailors, families and staff who were there and was very impressed that this was a place that honored veterans, honored their families and really cared. The VA hospital system works very well.

Q: What about those returning service men and women with no physical wounds?

A: Army, Navy and Air Force combat stress units in theater are doing a fabulous job. They are saving people from a great deal of emotional trauma. I am, however, concerned for these people who aren't getting physically injured, those that we don't necessarily see in our hospitals. I believe they are developing a debt of psychological consequences of war.

A speaker at a conference I once attended said that 15 percent of people that go into combat are significantly affected. I raised my hand and said that he was wrong. I think that 100 percent of people who experience a combat environment are somewhat affected by the experience—some more than others, some immediately and some later. That kind of environment where you are so physically and mentally challenged with overlying abject fear produces memories that affect lives.

I'm not too concerned about the people that get into our hospital system, because they're going to get great care. The veterans that come back and stay with their active units are pretty much taken care of. They can share their experience with others with like experiences.

I am very concerned about those people who are at the end of their obligated service and get out, or reservists who are at the end of their active call-up and return to their civilian jobs. I wonder who they talk with, who understands. If they need help, do they know how to ask for it and do they have the courage to ask for it? Are we there for them in a way that meets their needs? We can set up all the programs we want that are shining examples of our mental health services, but if they are not accessible and used by those truly in need, then our programs are not so much of a success.

The Assistant Secretary of Defense for Health Affairs, Dr. Winkenwerder, has announced that we are going to

survey all military personnel six months after they return from deployment to determine how they are doing. We want to identify those that are having emotional challenges because of their experiences. It doesn't have to be the classic picture of someone huddled in the fetal position in a corner. This type of damage can manifest itself in marriage difficulty or personal relationships. It can be looking over your shoulder, or thoughts and dreams. This is the debt that our country owes to these veterans.

Q: Building on that, looking to 2005 are there any changes ahead?

A: For the last couple of decades, we have planned for a specific type of combat operation. That is a very short conflict, where we win decisively and return to a normal routine of preparedness. What we have seen in this current conflict is that we need a better way to sustain combat operations for the long-term so that we don't keep using the same people time and time again.

We need to make sure that we have enough depth in our required medical capability to support combat operations. We have several lessons learned, especially with training, on how to improve, and be more combat ready and more effective on the battlefield. Medical technology is advancing—we have QuikClot, small arms protective insert plates and many other improvements to treat more extensive and varied types of wounds. We are more closely accompanying combat forces and operating closer to the front lines. We are more flexible, we are more agile, and we're able to maintain a flow of medical infrastructure and supplies to better support the challenges on the battlefield.

While in Iraq recently, I observed the use of digital radiography equipment and networked computers. This exemplifies the new technology we acquire to ensure we remain completely functional in the combat environment.

The Naval Hospital at Bethesda has networked computers, system administrators, digital radiography and huge IT servers. In combat, however, we must ensure our capabilities are sufficiently complex to get the job done, yet simple enough to be maintained in that environment. Our data entry systems for example. In a normal clinical situation our data entry systems might be able to process four or five patients an hour, taking 10 minutes per patient for interaction and data input. In combat, however, when you have 60 casualties all coming in at the same time, you need systems that are able to rapidly process information, record it in a way that is functional and preserve it so that it can be passed on. These are our big challenges.

Q: Are there any other technology areas that will be key to Navy Medicine?

A: I would like to see a better way to track patients. This is important for several reasons. Our health services system needs to know the location of injured patients to ensure we are prepared to provide all necessary care. Unit commanders want to know location and status of their personnel, and of course, families want information on the condition of their loved ones. There is a lot of anxiety surrounding people who have become combat wounded. We need to be as thorough in our identification methods as possible and make this information widely available.

Our supermarkets can track a box of Cheerios with an RFID [radio frequency identification] tag. While we do not necessarily have to use RFID tags, there should be some way to track an individual, perhaps not every day, but so that you can know whether they are in garrison, deployed or in transit.

When someone gets injured, at the first point of contact the casualty could be supplied with an enduring record tag that goes with that person for tracking purposes.

We could also use RFID for so many other things. We could track medical equipment, so that we know where it is and when it is anticipated to be on the ward. It could be used to track surgical instruments so we can account for them during a procedure. There is so much we could do—we need to take advantage of this technology.

At the same time we don't need to have so much technology that it becomes the focus. It should be simple, in the background. The hands-on skills and patient interaction is still the most important thing.

Q: You mentioned earlier the people that make Navy Medicine. Have you had much of a retention issue?

A: Our staffing has only been an issue in that have we have not had enough people to sustain combat operations, as I said earlier. It has been a particular strain on the combat specialties, like surgeons and other forward deployed physicians, nurses, and staff, and corpsman. I would like to be able to better relieve them, either with reserves or through a larger pool of combat medical personnel.

Combat operations have not caused a retention problem. With the exception of Desert Storm, we have not had sustained combat operation since Vietnam. As a result, many people have become accustomed to a peacetime tempo of military operations—namely, six month deployments and a lot of time at home. These current operations in conjunction with the global war on terrorism, like no other time in our careers, is when our nation truly needs us. Our medical personnel are answering this call to duty in an all-volunteer service.

We are never going to be able to pay those skilled individuals as much as they could make in the civilian

sector, but I don't see anyone saying they do not want to serve our country so they can go make more money. There are many people who have given up a lot, especially the reservists. People are leaving their practices and serving their country. These people are patriots.

Q: There were some logistical issues at the start of Operation Iraqi Freedom. Did those impact Navy Medicine in an adverse way?

A: We have a single integrated logistics manager in theater to handle all logistical matters. I think the system is running very well. There will always be more things that we could use, better equipment, different equipment, but I tell you that in the years before this conflict, very dedicated and smart people were looking into all of our logistics issues and getting the right equipment, the right supplies and the right means of getting them in place. I think we have done an extraordinarily good job.

There are now lessons learned to suggest that equipment could be a little better or we need more of certain supplies. I don't consider that to be a fault of the system, it's just the integral process of learning new ways to do things. If someone were to say to me that the supply system gave them everything they needed—I couldn't think of a single thing that I needed—I would question what they were thinking.

Just because we could do things better doesn't mean that the system is not a good one. This system moves an incredible amount of supplies to distant lands in some of the harshest terrain—on time and in the right amount.

Q: As crew sizes shrink on most ships, how will that directly affect the medical care onboard?

A: With smaller crew sizes, the individual sailor onboard may have skills and competencies that the ship cannot do without. So, the health of sailors may then be more important than it was before, requiring that we be as expeditious as possible in treating whatever injuries or illnesses, and more significantly—that we prevent those injuries and illnesses. We need to truly have force health protection to keep our people healthy.

Our job is to keep sailors and Marines healthy and on their job. You don't want to lose a key individual at the wrong time. We will be more active in promoting health issues. Line officers need to take an aggressive approach to obesity, smoking, drinking and other unhealthy lifestyles to prevent the illnesses that we see. There's only so much that can be done if someone has been smoking for 20 years or someone that is carrying around an extra 50 pounds. Treating people medically is much less desirable than keeping them healthy. The most important resource in any of our commands is the health of our people.

We don't accept anyone into the military who isn't healthy. We should be focused on maintaining this health and the readiness of our people. In comparison, we will take an aircraft or a ship and perform preventive maintenance on it to ensure its readiness. We will take the engines out of an airplane, look through the manuals and see what needs to be done and to what parts. You would never tell an aviator that they should fly their aircraft until it breaks and then bring it back to us to fix. Yet that's what we do to our people.

Commanding officers need to take a lead on these issues. Smoking, drinking and obesity are not medical issues—they are leadership issues. When they become medical issues, we are already on the downside of the consequences.

Q: Has the role of the surgeon general changed since your predecessor, Admiral Cowan, held the position and when you will pass the torch to the next surgeon general?

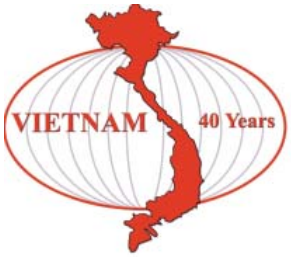
A: This is an evolving role. Our challenges are to ensure that we honor our veterans by providing them with the most cost effective health services possible through our TRICARE program. We need to balance that with our requirement to support each and every operational assignment that comes to us from our line commanders.

Our challenge in the near future will be to make sure that we are working with those line commanders to define how they want us to support them. We must anticipate new threats and be flexible enough to perform a combat services support mission, a global war on terrorism mission, a homeland security mission, a humanitarian mission or a nation-building mission. We need to have the right kinds of people, properly trained and flexible enough to do one mission one day and another mission the next.

We are currently in a combat services support mission in Iraq. I believe you win wars by building nations and then a community of nations. We can assist in all of those missions. We take care of combat casualties, but we also take care of the children and civilians. As in Iraq, we can help to rebuild a country's health care system. Iraq has good physicians—what they lack is the opportunity to practice their health trade. We can help them do that. This all part of what Navy Medicine does.

Q: Is there anything you would like to add?

A: I would like to reemphasize how absolutely committed we are to the sailors and Marines presently serving our country, and to the veterans who have devoted their lives serving our nation—some even giving their lives. It is our duty to provide these heroes with the best health services that we possibly can. ❑



Buzzing the Doctors' House

Even as Americans mourned the sudden and violent death of their young president John F. Kennedy in the late fall of 1963, U.S. presence in South Vietnam was steadily increasing. Although the phrase "winning hearts and minds" has become a much used cliché since President Lyndon Johnson first made it popular 40 years ago, the concept certainly made sense in the context of the Vietnam War. If the communist insurgency was to be kept at bay and finally defeated, winning the hearts and minds of the South Vietnamese people increasingly became the goal of U.S. aid. To help accomplish this goal, American military medical personnel were dispatched to bring modern medicine to South Vietnam's hinterlands. One such effort took place in the Mekong Delta village of Rach Gia, where Navy medical personnel helped provide healthcare to both Vietnamese civilians and soldiers.

Almost 4 years later, there was still a Navy presence there. For new arrivals like Navy nurse Winifred Copeland, the Mekong Delta, if not an exotic place to practice medicine, was still very much a war zone. In a letter to Navy Nurse Corps Director, Veronica Bulshefski, dated 30 March 1967, the young nurse described her introduction to Vietnam duty.

Dear Captain Bulshefski,

Our team arrived in Saigon on the 9th of February after some 26 hours enroute via Northwest Airlines. We were taken to Koepler Army Compound in Saigon for the in-processing and the beginning of many briefings. Since there are no facilities at Koepler for women, Miss Wilson and I stayed at the USAID guest house and commuted by taxi. The army briefings, though interesting and well organized, were more geared to the jungle fighting soldier.

Saigon was interesting but hectic. We arrived at the beginning of TET or Vietnamese New Year, which resembles a combination of Christmas, New Years, Thanksgiving and Fourth of July. One notes the elements of the Fourth of July very readily with the firecrackers going off day and night. Apparently the Vietnamese sleep very little during this holiday. The crowds, heat and dirt of the city made the delta sound appealing. We were not too sorry to leave Saigon after a week.

From Saigon to Rach Gia was an hour and a half by Beechcraft. The pilot pointed out the interesting landmarks enroute including the mountains along the Cambodian border. The rivers cross the delta in a very picturesque fashion and the whole area is deceptively peaceful from the air. Travel here is primarily done by air because the VC have mined many of the roads and blown up the bridges. The pilots maintain as high an altitude consistent with safety for as long as possible because of the instances of rifle fire from the ground. Also the pilots won't land here at Rach Gia until they can recognize "friendly" transportation on the ground. Since communications of all kinds are difficult here, the pilot signals his wish to land by buzzing the town—notably the doctors' house and the hospital. Such buzzing will bring 2 or more men to the air strip, in a Jeep and with weapons.

Our hospital is considered to be one of the best in Vietnam. It is very old and unscreened so that the insect and rodent population on every ward is unbelievable. The wards are crowded with patient and family who set up camp during the illness.

The patient furnishings on the wards consist of an iron bed with wooden slats, covered with a straw mat. The only mattresses that I have seen are in the recovery room and the post-operative ward. As soon

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A Navy physician and Vietnamese nurse discuss the prognosis of their patient, a Vietnamese soldier seriously injured in a vehicle accident.

as a patient feels well enough he "escapes"—or leaves unannounced. This is often done just before scheduled surgery, but may occur at any time. It is most disconcerting to our medical officer to find that his patient in traction has "escaped," traction and all. Apparently we have rather stiff competition from the local practitioner of "Chinese Medicine." This is the local witch doctor who gives us many "headaches" by attempting to treat diphtheria, for example, by kneading the skin on the neck of an infant. We get the child just in time for a tracheostomy but too late for much in the way of therapy.

We have not had an American hospital administrator here since last October. I have been attending to the administrative matters with the very capable assistance of Miss Wilson. I have always felt that hospital administration would be a challenge but what a place to begin! We are currently preparing all reports, answering communications from Public Health on the number of cases of cholera, diphtheria, etc, and reporting on immunization programs in our province. Our hospital administrator is due to arrive on April 15 and we shall welcome him.

Our nursing time is divided among the operating room, emergency room and recovery room. The number of surgical cases is going up because of war casualties and we have asked for more surgical beds and an additional operating room. The VC continue their harassment by mining roads and blowing up local buses enroute to neighboring towns.

The role of nurse advisor is challenging, though not without its problems. The cultural setting is so different and nursing standards as we know them do not exist. Last Monday, I was privileged to attend the opening of a workshop for Vietnamese chief nurses. The workshop lasts two weeks and is an attempt to teach the chief nurse what his job is. Almost all chief nurses here are men. I hope to work closely with Mr. Cao when he returns from the workshop in the organization and administration of the nursing service here. We will have to begin from the very beginning! Mr. Hasaka is giving anesthesia and instructing two Vietnamese in anesthesia. He is also helping with administrative duties.

Our house is located 5 blocks from the hospital and we have a car (International Scout) to drive to work. Miss Wilson and I are sharing the house with 2 USAID nurses. There is plenty of room and by VN standards the house is a good one. We are having problems with the electricity and water—in that they are both off sometime for 12 or 24 hours at a time. The local "power and light company" turns the generators down too low and blows the fuses. We have obtained a good supply of candles, flashlights and one battle lantern. Now if we could just find a way to keep the food from spoiling. We have two very willing maids who speak only Vietnamese. Most of our food is obtained from the local economy since the nearest commissary is in Saigon. We can get some canned goods through supply channels but it is difficult.

We have made several interesting rural health visits. One was down river to a navy junk base. The medical officer, Miss Wilson and I held sick call and were almost overrun by the villagers. We saw 200 patients and it was a very long hot day. The afternoon temperature has been between 115 and 120. We are told that this is a prelude to the monsoon.

Sincerely,
Winifred Copeland

Seven months after arriving in Vietnam, Copeland's team was withdrawn from Rach Gia. "We were very much surrounded by the Viet Cong down there, and there was a lot of harassment at night. It wasn't a very safe place for a group of medics to be because we had no defense. In fact, there was a problem keeping track of us administratively. Most people were surprised to learn that we were even there, way down in the Delta." ❑

CAPT Copeland is retired and lives in Oceanside, CA.

CAPT Murray Glusman, MC, USNR, World War II prisoner of war, died 26 January 2005. He was 91. Dr. Glusman was born on 31 December 1914 in New York, NY. After attending New York University with a major in chemistry, he graduated from the College of Medicine at New York University-Bellevue Medical Center with an M.D. in 1938.

In November 1940 he joined the Naval Reserve as an assistant surgeon with the rank of lieutenant (junior grade). After a 3-week assignment at Naval Hospital Brooklyn, he sailed for the Philippines in the summer of 1941 and reported to the Cavite Navy Yard dispensary not far from Naval Hospital Cañacao.

When World War II came to the Philippines on 10 December 1941, Japanese bombers completely destroyed the Navy Yard killing and wounding scores of Filipino employees and U.S. servicemen. Dr. Glusman and his colleagues evacuated casualties to the Cañacao Naval Hospital, where he pitched in to treat the wounded before going to other locations where his services were needed. One of those places was the Navy Section Base at Mariveles.

Photo courtesy of John Glusman

As the Japanese onslaught continued unabated, Dr. Glusman braved hostile aircraft and Japanese bombs to attend his patients, most of whom were suffering from malaria, dysentery, and dengue. He, himself, was stricken with malaria and spent several days at Hospital Number Two until he was strong enough to resume his duties.

Supplies ran low and American fortunes continued to suffer. Japanese soldiers landed on Philippine beaches a few days before Christmas 1941 and overwhelmed the ill-equipped Americans and Filipinos. The battered defenders retreated down the Bataan Peninsula as conditions continued to worsen. The lack of quinine was critical. This drug was the treatment for malaria and without it many men came down with the disease. Nearly everyone suffered debilitating weakness from dysentery. When food and ammunition ran out, Bataan's 75,000 defenders surrendered in April 1942.

But Dr. Glusman and several of his colleagues were not with them. They had escaped to the island fortress of Corregidor out in Manila Bay. There they continued to practice medicine until Japanese forces overwhelmed Corregidor's defenders and U.S. forces surrendered on May 6th.

After remaining on Corregidor a short time, Dr. Glusman and the other physicians were transported to the infamous Bilibid Prison in Manila, an intermediate stop for people being sent to Japan or Philippine work camps. Navy medical personnel had transformed part of Bilibid into a functioning hospital and there they treated prisoners who soon were suffering deficiency diseases such as beriberi, pellagra, and scurvy. With few instruments, scarcely any medicine, and a dwindling food supply, their efforts were severely hampered.

In late 1943 he and several other Navy physicians and corpsmen were shipped to another prison camp—Cabanatuan, and later to Japan where they were inmates at several POW camps. In these camps, Dr. Glusman and his colleagues cared for British, Australian, American, and Dutch POWs. "[Dr. Ferdinand] Berley worked as a surgeon. He was the senior American medical officer. John Bookman was internal medicine. And I was neurology and psychiatry even though I hadn't had any formal training in psychiatry."

When World War II ended in September 1945, Murray Glusman returned home. After his discharge from the Navy, he eventually became a professor of psychiatry at Columbia University's College of Physicians and Surgeons. He also created the Department of Behavioral Physiology at the New York State Psychiatric Institute. During his long career, he both practiced psychiatry and was very active in research in the field of neuro-psychiatry.

In a 1996 interview with *Navy Medicine*, Dr. Glusman described how his POW experience had changed his life. "When I was finishing my residency, I applied to the New York Psychoanalytic Institute. The interviewer asked me about my experiences. He wanted to know whether there were any lasting effects. I said, 'Before the war there was a different feeling about permanence. You look around you. You look at New York City. The buildings look really solid and permanent. But they don't to me. I've seen Osaka and Kobe wiped out. People don't live forever. People get killed and die. Cities get killed and die. Nothing lasts forever.' This analyst looked at me like I was really nuts. She couldn't understand my frame of reference."

For his World War II service, Dr. Glusman received the Army Distinguished Unit Badge with Oak Leaf Cluster, the American Defense Service Medal with Base clasp, the Asiatic-Pacific Area Campaign Medal with one Bronze star, and the Philippine Defense Ribbon with one Bronze star. ❑

Book Review

Hatred: The Psychological Descent into Violence by Willard Gaylin M.D. PublicAffairs Books, New York. 2003. 272 pages.

Dr. Willard Gaylin is a leading educator and practitioner in the field of psychotherapy. He currently teaches at Columbia College and is co-founder of the Hastings Center, an institute specializing in the study of ethics in the life sciences. His recent book delves into a subject many members of Navy medicine encounter in the operational setting, particularly when dealing with ethnic or religious conflict. It is the psychology of hatred.

His thesis handles hatred as an intense emotion, even a passion, and begins to break it down further as a disorder of perception or form of quasi-delusional thinking. Dr. Gaylin argues that one must understand the nature of delusion and the meanings of paranoid shift to comprehend how the symptoms of hatred manifest itself in a person. He also argues that hatred, like love, which is rational and irrational, requires an object.

The book's central theme is taking apart the psychosis of hatred to give readers and, in particular, clinicians an understanding of this human emotion as a disorder. The book opens with the concept and definition of rage as the emotional core of hatred, and the author delineates between anger and hatred.

Gaylin's audiences are often those without a background in psychology or psychiatry. Therefore, he patiently discusses the symptoms that drive a person who feels consistently threatened. Feeling threatened can take many forms. The author looks at deprivation, inequity, betrayal, frustration, exploitation, and humiliation to examine the rationality of hatred. This is a key concept in trying to to understand that the human mind stores grievances and anticipates future rectification and redress of those grievances.

Patients are guided through conflicting emotions to perceive the causes of their diminished sense of self. Readers begin to comprehend the system by which a perceived threat leads to fear and proceeds from fear to rage. The same pathways used by psychoanalysts can be used to explore the complex routes that lead a person from vulnerability to hatred.

The book urges readers to look beyond the simple definition of those terms, such as deprivation, which he describes as more a feeling of entitlement than want. When examining the concept of betrayal, it is the perception of someone close to them (like family or friends) or they themselves being deprived of their self-actualization. This is a person's perceived role or place in society, tribe, their family or the world. Gaylin uses the example of a body found with a single stab wound which denotes an intruder or a stranger as a potential suspect. When there are 20 or 30 blows, one is likely to be dealing with someone who is both frustrated and somehow connected to the victim.

Gaylin then evaluates the emotion of envy. He characterizes envy as coveting an object, power, or ideology and then being deprived of them. The reaction is to project rage upon that object or concept.

In a chapter dealing with the subject of paranoia, the author divides that emotion into everyday paranoia and that which fits in the realm of obsessive hatred. Gaylin identifies negativism, suspicion, chronic anger, self-referentiality (one who is fixated that inconveniences in life happen only to them), narcissism, and projection (placing an emotion such as hate or love upon an object, making it the focus of their problems) as traits that are common in paranoid personalities. Think of atrocities committed in Bosnia, Kosovo, or by terrorist groups like Al-Qaeda and Hamas. More recent examples are death squads like the Fedyeen Saddam. The perpetrators of violence all share some or all of the above mentioned personality traits.

The book's final chapters explore the culture of hatred used by dictators as a means of controlling the masses. Such discussions are important to those in Navy medicine, because you will witness the horrors of neighbor demonizing neighbor based on their religion and ethnicity.

Those involved in military medicine, may be called upon to treat the victim or even the perpetrator of such atrocities. Members of Navy medicine will find this book a worthwhile read, for it speaks to the heart of the psychology of conflict and leads readers to think of their role in alleviating not only physical but emotional suffering in a combat or humanitarian setting. ❑

—LCDR Aboul-Enein is a Plans Operations and Medical Intelligence Officer assigned as Director for North Africa and Egypt, as well as Special Advisor on Islamic Militancy at the Office of the Secretary of Defense, Washington, DC.

Navy Medicine 1995

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VADM Donald Hagen, Surgeon General of the Navy, presents a Bureau of Medicine and Surgery plaque to Pope John Paul II while on a courtesy call to the Vatican.

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